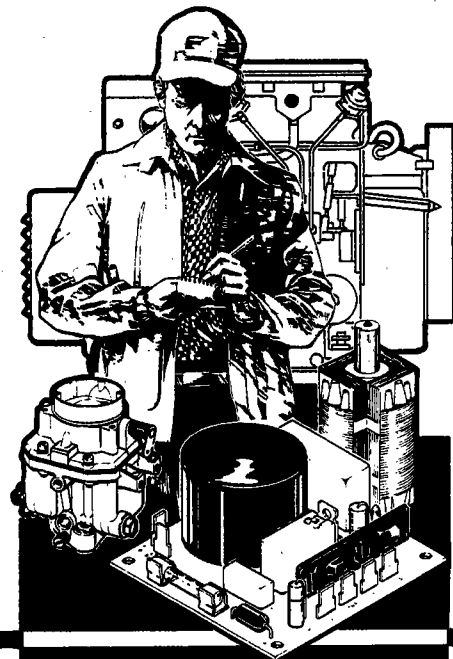


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# Onan

## Parts Manual DL6B GenSet



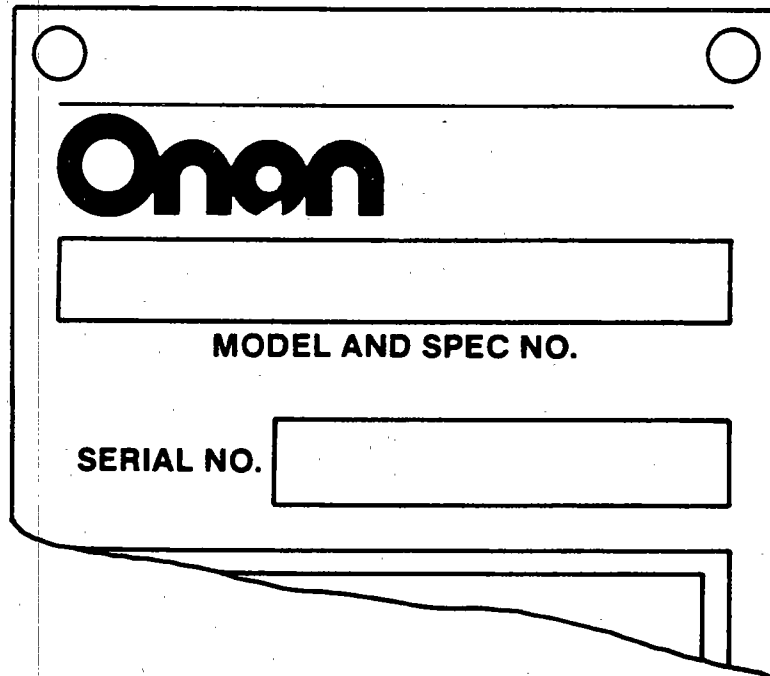
Onan Service Parts

934-0223  
1-87 (SPEC A and B)  
Replaces  
6-84 (Spec A-B)  
Printed in U.S.A

## General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.

A rectangular nameplate template with rounded corners and two circular mounting holes at the top. The Onan logo is at the top left. Below it is a large rectangular box for 'MODEL AND SPEC NO.'. Below that is a smaller rectangular box for 'SERIAL NO.'. The bottom right corner of the template is folded over.

**Onan**

**MODEL AND SPEC NO.**

**SERIAL NO.**

M-1149

For handy reference, insert "YOUR" nameplate information in the spaces above.

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## Introduction

This parts manual applies to the standard generator sets as listed below. Parts are arranged in groups of related items and each illustrated part is identified by a reference number corresponding to the same reference number in the parts list. Unless otherwise mentioned in the description, parts are interchangeable between models. All references in the parts description that pertain to specification letter differences for replacement parts are for the model listed on the identification label affixed to the generator set control. Throughout this manual left (non-accessory) and right (accessory) sides are determined by facing the rear or generator end of the set.

### Set Data Table

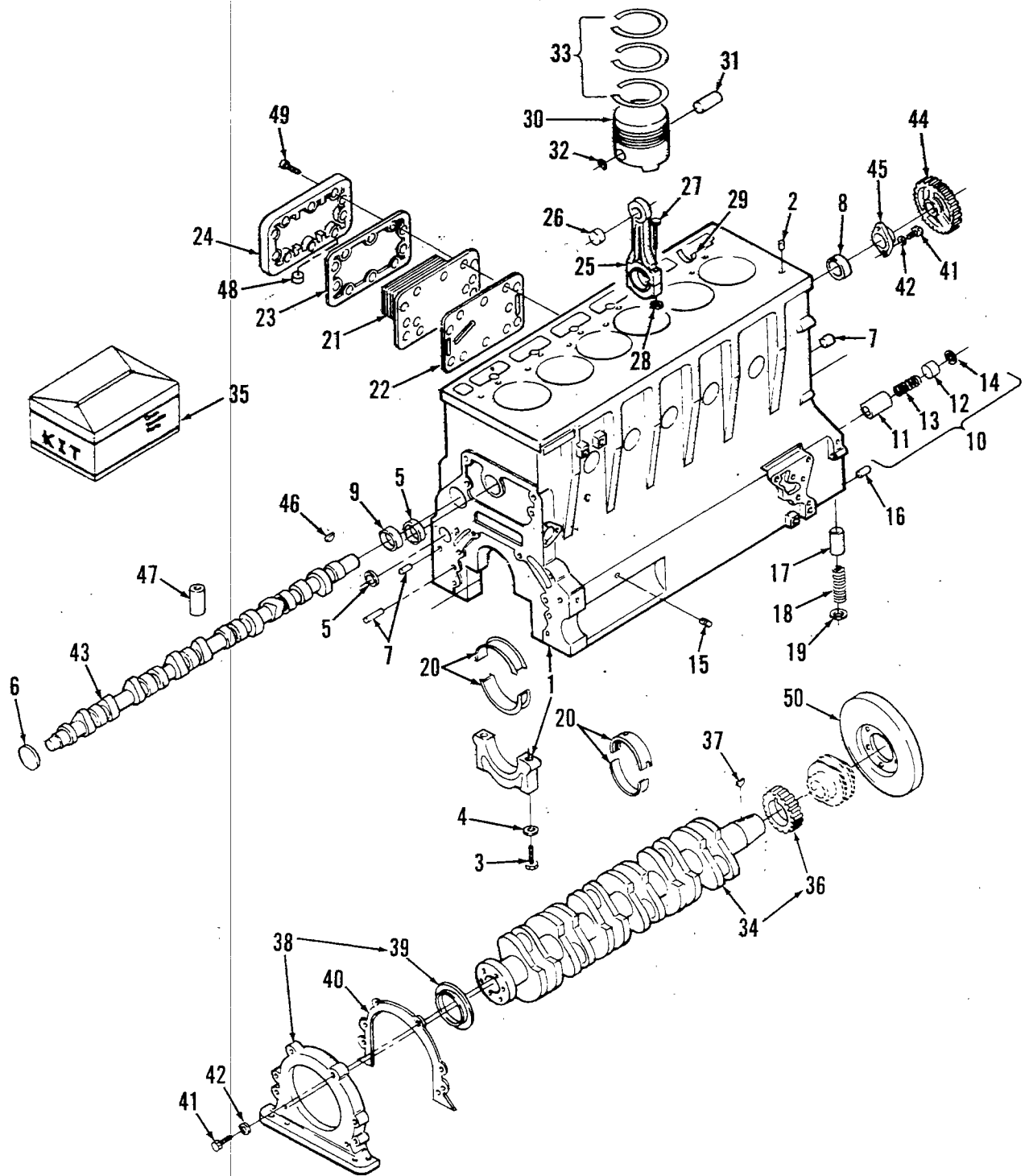
MODEL IDENTIFICATION	RATING	MODEL IDENTIFICATION	RATING
45.0 DL6B-*/#@	45,000 WATTS	50.0 DL6B-*/#@	50,000 WATTS

### Electrical Data Table

*VOLTAGE CODES	VOLTS	HERTZ	WIRE	PHASE	NOTES
9XR 15R	347/600 120/208 120/240 127/220 139/240 240/416 254/440	60 60	4 12	3 3	+
515R	277/480 110/190 110/220 115/200 115/230 120/208 127/220 220/380 230/400 240/416 254/440	50	12	3	+

- \* - Voltage codes follow model letter designations.
- # - Specification number: Number 1 is standard, all others indicate variations.
- @ - Specification letter: Letter advances ( A to B, B to C, etc.) with major manufacturing changes.
- + - These generators are reconnectable, refer to Operator's Manual for wiring data.

# Cylinder Block



# Cylinder Block

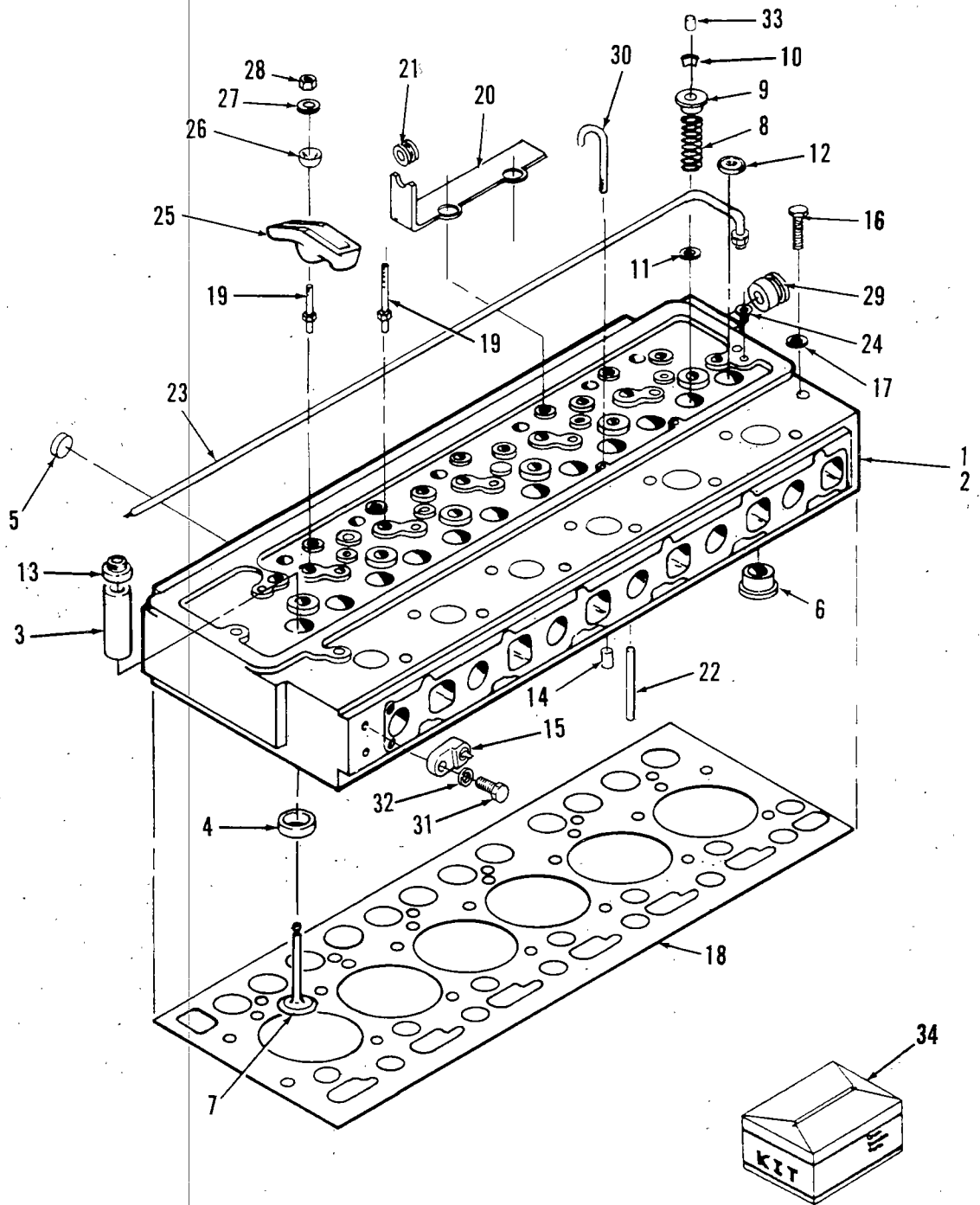
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	110-3293	1	Block Assembly, Cylinder (Includes Parts Marked *)	23	102-0975	1	Gasket, Oil Cooler Cover
2	110-2978	2	*Pin, Cylinder Head Alignment	24	102-1005	1	Cover, Oil Cooler
3	720-1801	14	*Screw, Cap - Hex Head - Special	25	114-0313	6	Rod, Connecting (Includes Finished Bearing, Bolts and Nuts)
4	740-1801	14	*Washer, Flat - Special	26	114-0316	6	Bushing, Connecting Rod (Semi Finished)
5			Plug, Cup	27	114-0315	12	Bolt, Connecting Rod
	517-0141	6	* 50.8 MM Stainless Steel	28	114-0318	12	Nut, Connecting Rod
	517-0144	2	* 12.7 MM Steel	29			Bearing, Connecting Rod (Half)
	517-0146	1	* 31.75 MM Stainless Steel		114-0319	12	Standard
	517-0250	1	54.37 MM Stainless Steel (Oversize)		114-0319-01	12	0.25 MM Undersize
6	517-0140	1	*Plug, Welch (57.15 MM) Steel		114-0319-02	12	0.50 MM Undersize
7			Pin, Alignment		114-0319-03	12	0.75 MM Undersize
	775-0074	2	* 8 MM x 20 MM	30			Piston and Pin Kit (Includes Retaining Rings)
	775-0089	2	* 10 MM x 20 MM		112-0201	6	Standard
	775-0078	2	* 8 MM x 40 MM		112-0202	6	0.25 MM Oversize
8	101-0511	1	*Bearing, Camshaft - Front		112-0203	6	0.50 MM Oversize
9	101-0471	6	*Bearing, Camshaft - Intermediate and Rear		112-0204	6	0.75 MM Oversize
10	123-1613	1	*Valve Assembly, Pressure Relief (Includes Parts Marked +)		112-0205	6	1.0 MM Oversize
11	123-1515	1	+Body, Relief Valve	31	112-0165	6	Pin, Piston
12	123-1514	1	+Piston, Relief Valve	32	518-0409	12	Ring, Retaining - Piston Pin
13	123-1508	1	+Spring, Relief Valve	33			Ring Kit, Piston
14	518-0410	1	+Ring, Retaining		113-0233	6	Standard
15			Plug, Pipe		113-0234	6	0.25 MM Oversize
	502-0153	1	* Brass (1/4") Early Models		113-0235	6	0.50 MM Oversize
	505-0274	6	* Steel (1/8")		113-0236	6	0.75 MM Oversize
16	516-2102	1	*Pin, Regulator Valve Spring		113-0237	6	1.0 MM Oversize
17	123-1514	1	*Piston, Regulator Valve	34	104-1576	1	Crankshaft and Gear (Includes Key)
18	123-1511	1	*Spring, Regulator Valve	35	168-0173	1	Kit, Gasket - Lower End
19	740-1004	1	*Washer, Flat (M6)	36	104-1138	1	Gear, Crankshaft
20			Bearing Kit, Main (Includes Upper and Lower Bearing Half)	37	515-0245	1	Key - Crankshaft Gear
			Front	38	101-0713	1	Plate, Rear Seal (Includes Seal)
	101-0689	1	Standard	39	509-0203	1	Seal, Oil - Rear (Includes Wear Sleeve)
	101-0690	1	0.25 MM Undersize	40	101-0600	1	Gasket, Rear Seal Plate
	101-0691	1	0.50 MM Undersize	41	718-1037	8	Screw, Cap - Hex Head (M8 x 25 MM)
	101-0692	1	0.75 MM Undersize	42	740-1006	8	Washer, Flat (M8)
			Center	43	105-0512	1	Camshaft
	101-0681	1	Standard	44	105-0515	1	Gear, Camshaft
	101-0682	1	0.25 MM Undersize	45	105-0534	1	Retainer, Camshaft
	101-0683	1	0.50 MM Undersize	46	515-0245	1	Key - Camshaft Gear
	101-0684	1	0.75 MM Undersize	47	115-0275	12	Tappet
			Intermediate (Except Center)	48	504-0028	1	Valve, Coolant Drain
	101-0685	4	Standard	49	725-1057	10	Screw, Socket Head (M8 x 40 MM)
	101-0686	4	0.25 MM Undersize	50			Damper, Crankshaft
	101-0687	4	0.50 MM Undersize		104-1485	1	3000 RPM
	101-0688	4	0.75 MM Undersize		104-1547	1	3600 RPM
			Rear				
	101-0677	1	Standard				
	101-0678	1	0.25 MM Undersize				
	101-0679	1	0.50 MM Undersize				
	101-0680	1	0.75 MM Undersize				
21	102-1022	1	Cooler, Oil				
22	102-0973	1	Gasket, Oil Cooler				

\* - Parts Included in 110-3293 Cylinder Block Assembly

+ - Parts Included in 123-1613 Pressure Relief Valve Assembly



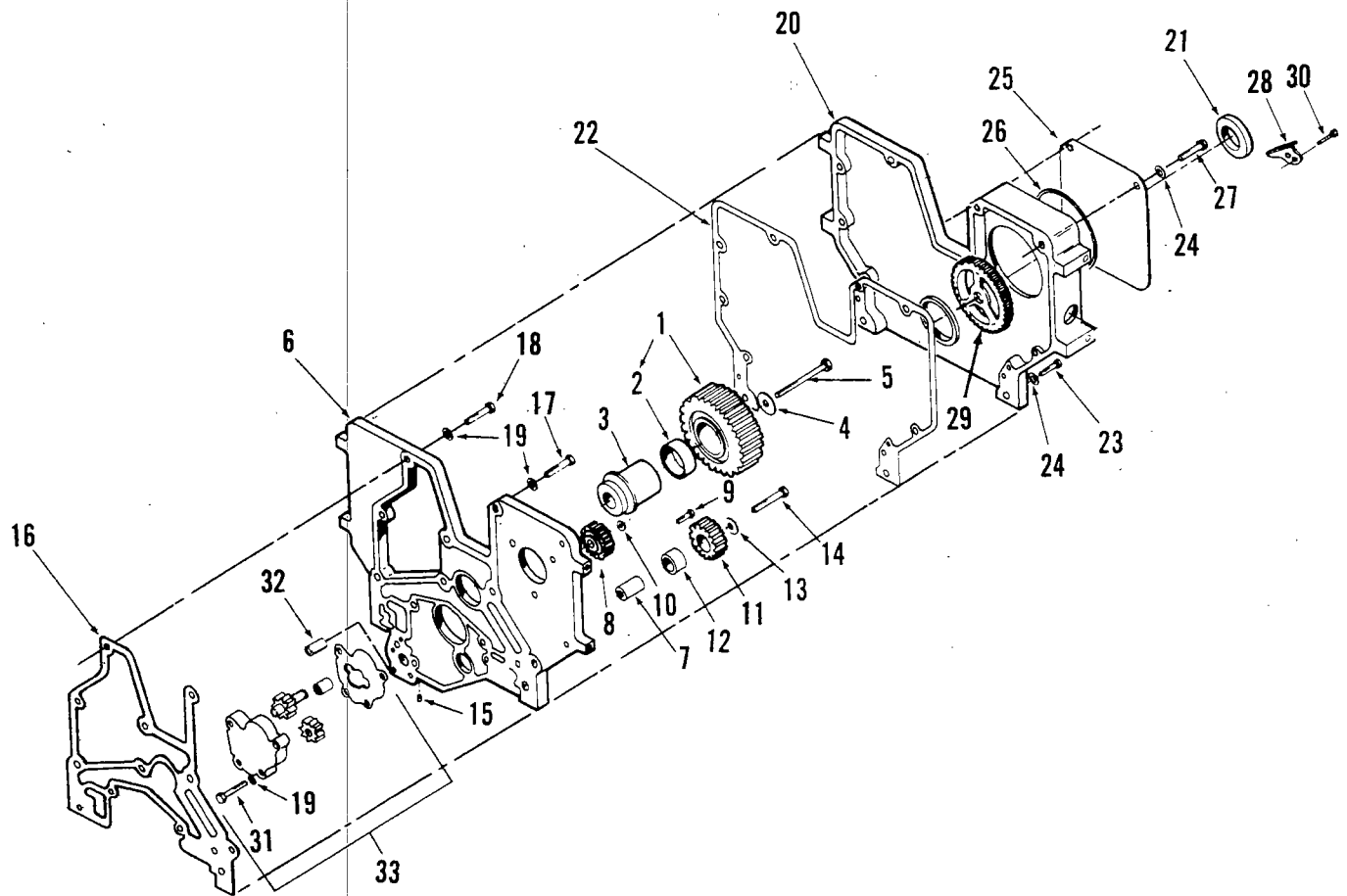
# Cylinder Head



# Cylinder Head

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	110-3200	1	Head Assembly, Cylinder (Includes Guides, Seats, Cup Plugs, Breather Tubes, Valves, Springs, Water Pump Adapter, Retainers, Collets, Wear Plates, Sleeves, Seals and Spacers)	11	110-2991	12	Plate, Valve Spring Wear Spec A
2	110-3284	1	Head, Cylinder (Includes Seats, Spacers, Sleeves, Cup Plugs and Guides)	12	110-2991	6	Begin Spec B (Exhaust)
3	110-3495	6	Guide, Valve (Semi-Finished)	12	110-3432	6	Spacer, Valve Spring (Intake) Begin Spec B
4	110-3496	6	Intake (Standard)	13	110-3228	12	Seal Assembly, Valve Stem
			Exhaust (Standard)	14	110-2979	6	Sleeve, Sealing
			Seat, Valve	15	309-0269	1	Switch, Low Engine Temperature (S5) Controls With 9 Indicator Lights
			Intake (Not Original Equipment)	16	720-1802	26	Screw, Cap - Hex Head (M12 x 130 MM)
	110-2839	6	Spec A	17	740-1801	20	Washer, Flat (M12)
			Begin Spec B	18	110-3026	1	Gasket, Cylinder Head
	110-3226-01	6	Standard	19			Stud, Rocker Arm
	110-3226-02	6	.25 MM Oversize		115-0204	6	Short
	110-3226-03	6	.50 MM Oversize		115-0270	6	Long
			Exhaust	20	115-0313	3	Guide, Push Rod
	110-2781-01	6	Standard	21	508-0228	3	Grommet
	110-2781-02	6	.25 MM Oversize	22	115-0253	12	Pushrod
	110-2781-03	6	.50 MM Oversize	23	120-0920	1	Tube, Rocker Arm Oil
5			Plug, Cup	24	502-0003	1	Connector, Inverted Male
	517-0142	11	38.1 MM	25	115-0316	12	Arm, Rocker
	517-0146	4	31.75 MM	26	115-0202	12	Ball, Rocker Arm
	517-0162	6	19.05 MM	27	526-2119	12	Washer, Flat
6	110-3039	6	Plug, Hot (Swirl)	28	115-0315	12	Locknut, Rocker Arm
7			Valve	29			Adapter, Water Pump
	110-3066	6	Intake		110-3045	1	Standard
	110-2840	6	Exhaust		110-3490	1	0.5 MM Oversize
8	110-3300	12	Spring, Valve	30	123-1536	2	Tube, Breather
9	110-3015	12	Retainer, Valve Spring	31	800-2085	1	Screw, Cap - Hex Head (M10 x 20 MM)
10	110-2752	24	Collet, Valve Lock	32	740-1008	1	Washer, Flat (M10)
				33	110-3245	12	Cap, Valve Stem
				34	168-0160	1	Kit, Gasket - Valve Grind

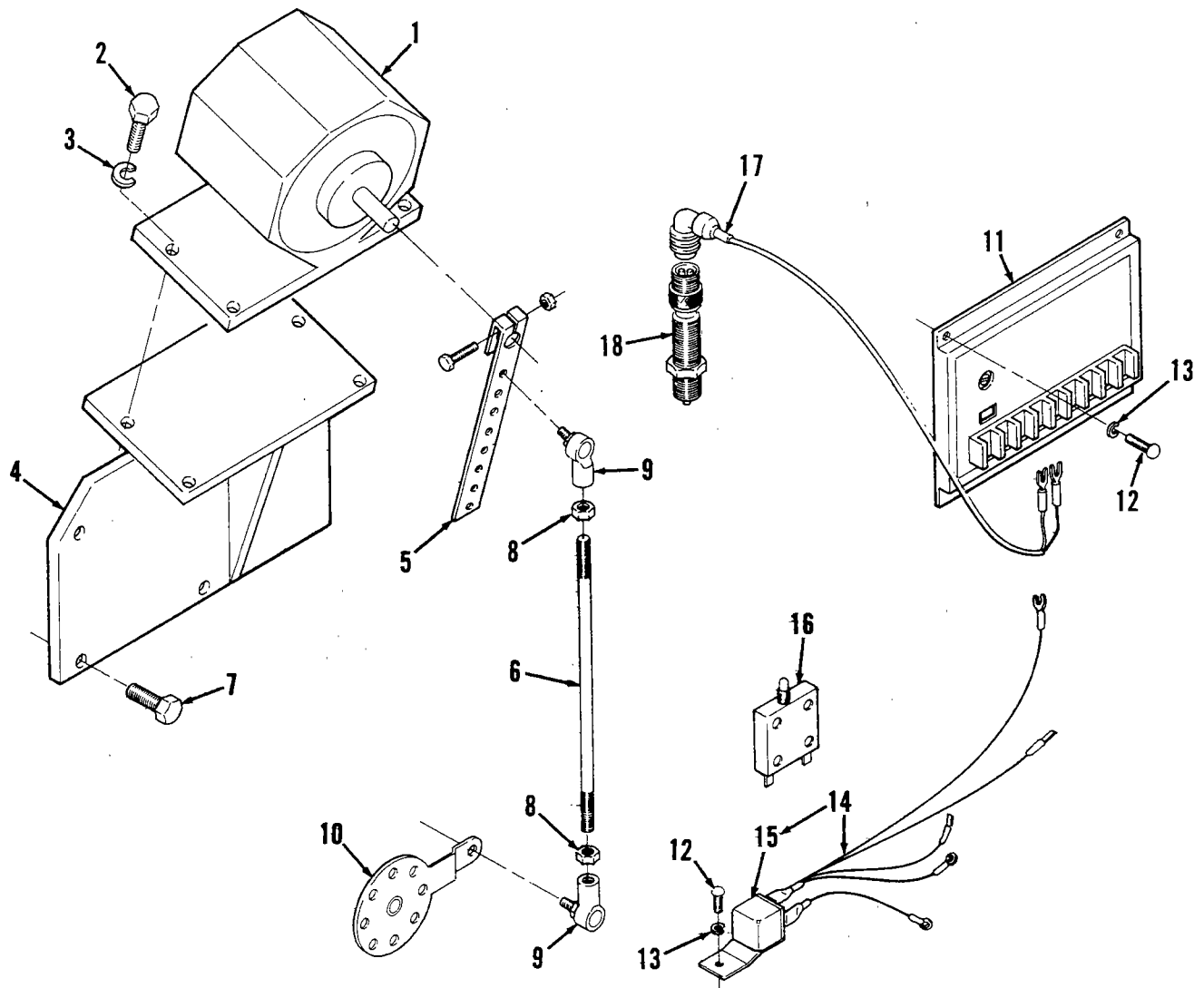
# Gearcase



# Gearcase

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	105-0513	1	Gear, Idler (Includes Finished Bearing)	19	740-1006	7	Washer, Flat (M8)
2	105-0519	1	Bearing, Idler Gear (Semi-Finished)	20	103-0746	1	Gearcase (Includes Oil Seal and Oil Fill Tube)
3	105-0508	1	Shaft, Idler Gear	21	509-0191	1	Seal, Oil (Includes Wear Sleeve)
4	526-2127	1	Washer, Flat (M10)	22	103-0731	1	Gasket, Gearcase
5	718-1064	1	Screw, Cap - Hex Head (M10 x 75 MM)	23			Screw, Cap - Hex Head
6	103-0716	1	Backplate, Gearcase		718-1046	2	M8 x 70 MM
7	120-0983	1	Shaft, Oil Pump Idler Gear		718-1043	5	M8 x 55 MM
8	120-0885	1	Gear, Oil Pump Drive	24			Washer, Flat
9	718-1035	1	Screw, Cap - Hex Head (M8 x 16 MM)		740-1006	4	M8
10	526-2106	1	Washer, Flat		740-1010	4	M12
11	120-1063	1	Gear, Oil Pump Idler (Includes Finished Bearing)	25	103-0735	1	Cover, Injection Pump Gear
12	120-1041	1	Bearing, Oil Pump Idler Gear (Semi-Finished)	26	509-0263	1	Seal, O-Ring
13	526-2107	1	Washer, Flat	27			Screw, Cap - Hex Head
14	718-1035	1	Screw, Cap - Hex Head (M8 x 16 MM)		718-1048	1	M8 x 80 MM
15	725-1802	1	Screw, Hex Socket Set (M16 x 16 MM)		718-1044	2	M8 x 60 MM
16	103-0733	1	Gasket, Gearcase Backplate		718-1036	1	M8 x 20 MM
17			Screw, Cap - Hex Head	28	103-0750	1	Plate, Timing
	718-1037	1	M8 x 25 MM	29	147-0427	1	Gear, Injection Pump
	718-1039	1	M8 x 35 MM	30	815-0578	2	Screw, Cap - Hex Head (M6 x 12.5 MM)
18	725-1801	2	Screw, Low Socket Head Cap (M8 x 16 MM)	31	718-1043	2	Screw, Cap - Hex Head (M8 x 55 MM)
				32	120-0979	1	Bearing, Oil Pump Drive Shaft
				33	120-1014	1	Pump Kit, Oil (Includes Drive Shaft Bearing)

# Electronic Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	151-0566	1	Actuator, Governor	11	151-0605	1	Control, Governor (A12)
2	800-0006	4	Screw, Cap - Hex Head (1/4-20 x 7/8")	12	813-0103	5	Screw, Machine - Round Head (#10-32 x 3/4")
3	850-0040	4	Washer, Lock - Spring (1/4")	13	850-0030	5	Washer, Lock - Spring (#10)
4	150-1996	1	Bracket, Mounting	14	338-1705	1	Harness, Wiring - Includes Relay
5	151-0567	1	Arm, Governor (Includes Screw and Nut)	15	307-1886	1	Relay
6	150-1923	1	Rod, Governor Control	16	320-0540	1	Breaker, Circuit - 15 Amp (CB13) Includes Mounting Nuts
7	800-2071	4	Screw, Cap - Hex Head (M8 x 90 MM)	17	338-1765-01	1	Cable, Magnetic Pickup (60")
8	870-0131	2	Nut, Hex - with ET (#10-32)	18	151-0603-02	1	Sensor, Magnetic Speed
9	150-0939	2	Joint, Ball				
10	151-0437	1	Kit, Throttle Modification (Fuel Injection Pump)				

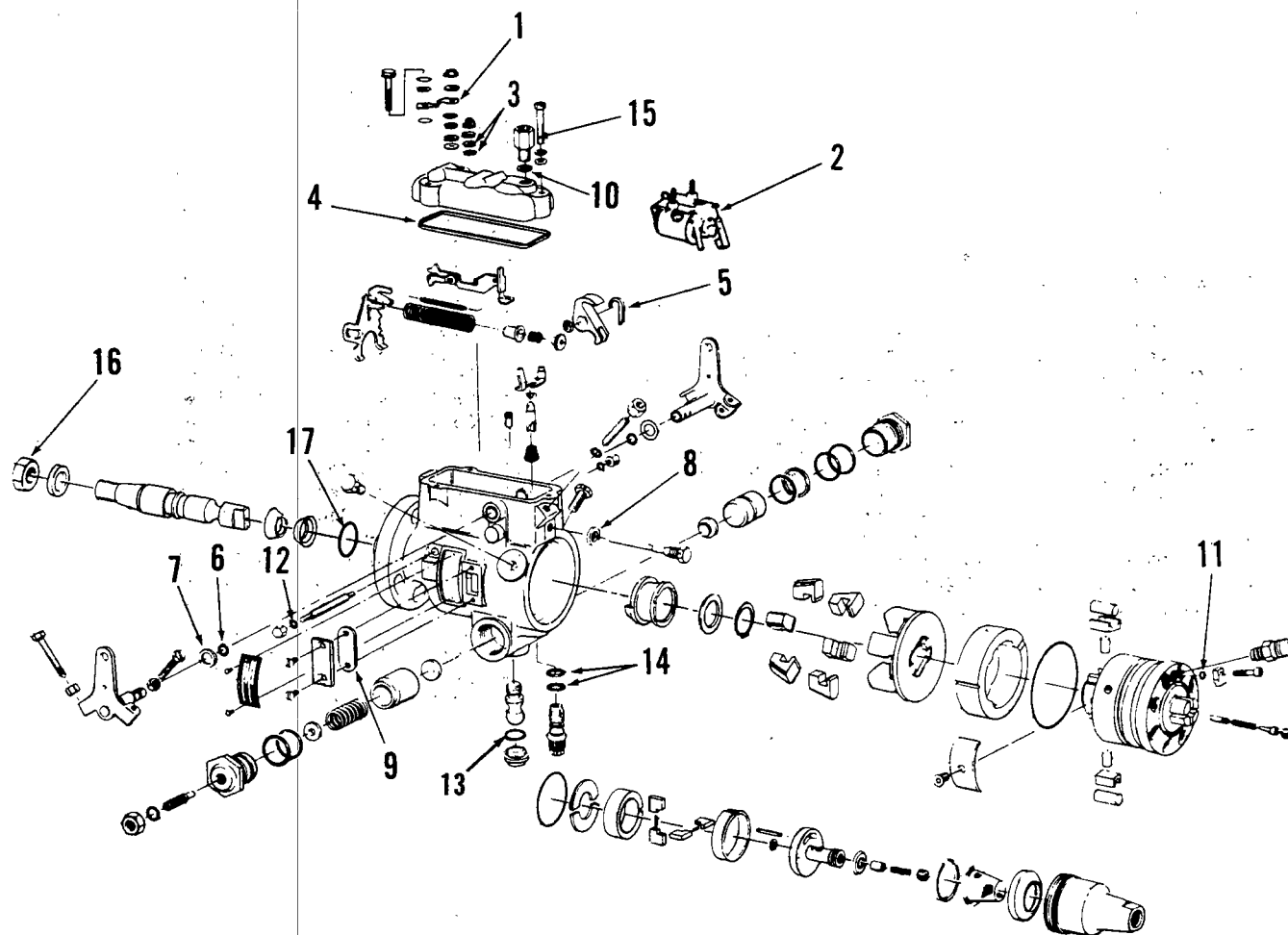
This diagram illustrates the rear suspension and brake assembly of a vehicle. The main components shown are:

- 1**: Rear axle assembly with brake discs and calipers.
- 2**: A bolt or pin used for securing the axle.
- 3**: A small pin or bushing.
- 4**: A small pin or bushing.
- 5**: A suspension arm or control arm.
- 6**: A suspension arm or control arm.
- 7**: A suspension arm or control arm.
- 8**: A suspension arm or control arm.
- 9**: A suspension arm or control arm.
- 10**: A suspension arm or control arm.
- 11**: A brake pad.
- 12**: A brake pad.
- 13**: A brake pad.
- 14**: A suspension arm or control arm.
- 15**: A suspension arm or control arm.
- 16**: A brake hose or line.
- 17**: A suspension arm or control arm.
- 18**: A suspension arm or control arm.
- 19**: A suspension arm or control arm.
- 20**: A suspension arm or control arm.
- 21**: A suspension arm or control arm.

# Fuel Injection

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	147-0464-08	1	Pump, Fuel Injection (See Separate Page for Components)	21			Washer, Injection Nozzle Shim
2	520-2403	3	Stud, Injection Pump (M8)	147-0617	As Req.	0.80 MM	
3	526-2106	3	Washer, Flat (M8)	147-0618	As Req.	0.84 MM	
4	750-1006	3	Nut, Hex (M8)	147-0619	As Req.	0.88 MM	
5	147-0666	1	Line, Fuel Injection (No. 1)	147-0620	As Req.	0.92 MM	
6	147-0667	1	Line, Fuel Injection (No. 2)	147-0621	As Req.	0.96 MM	
7	147-0668	1	Line, Fuel Injection (No. 3)	147-0622	As Req.	1.00 MM	
8	147-0669	1	Line, Fuel Injection (No. 4)	147-0623	As Req.	1.04 MM	
9	147-0562	6	Injector, Fuel (Includes Seal)	147-0624	As Req.	1.08 MM	
10	147-0436	6	Seal, Injector	147-0625	As Req.	1.12 MM	
11			Clamp, Fuel Line	147-0626	As Req.	1.16 MM	
	147-0672	3	Clamps Two Lines	147-0627	As Req.	1.20 MM	
	147-0673	2	Clamps Three Lines	147-0628	As Req.	1.24 MM	
	147-0674	1	Clamps Six Lines	147-0629	As Req.	1.28 MM	
12	502-0733	1	Connector	147-0630	As Req.	1.32 MM	
13	502-0057	1	Tee, Pipe - Special	147-0631	As Req.	1.36 MM	
14	147-0670	1	Line, Fuel Injection (No. 5)	147-0632	As Req.	1.40 MM	
15	147-0671	1	Line, Fuel Injection (No. 6)	147-0633	As Req.	1.44 MM	
16	501-0094	1	Line, Flexible Fuel - 60" (Fuel Return)	147-0634	As Req.	1.48 MM	
17	147-0647	6	Tip, Nozzle	147-0635	As Req.	1.52 MM	
18	147-0766	6	Banjo	147-0636	As Req.	1.56 MM	
19	147-0767	12	Washer	147-0637	As Req.	1.60 MM	
20	147-0765	6	Screw, Hollow	147-0638	As Req.	1.64 MM	
				147-0639	As Req.	1.68 MM	
				147-0640	As Req.	1.72 MM	
				147-0641	As Req.	1.76 MM	
				147-0642	As Req.	1.80 MM	
				147-0643	As Req.	1.84 MM	
				147-0644	As Req.	1.88 MM	
				147-0645	As Req.	1.92 MM	
				147-0646	As Req.	1.96 MM	

# Fuel Injection Pump Components



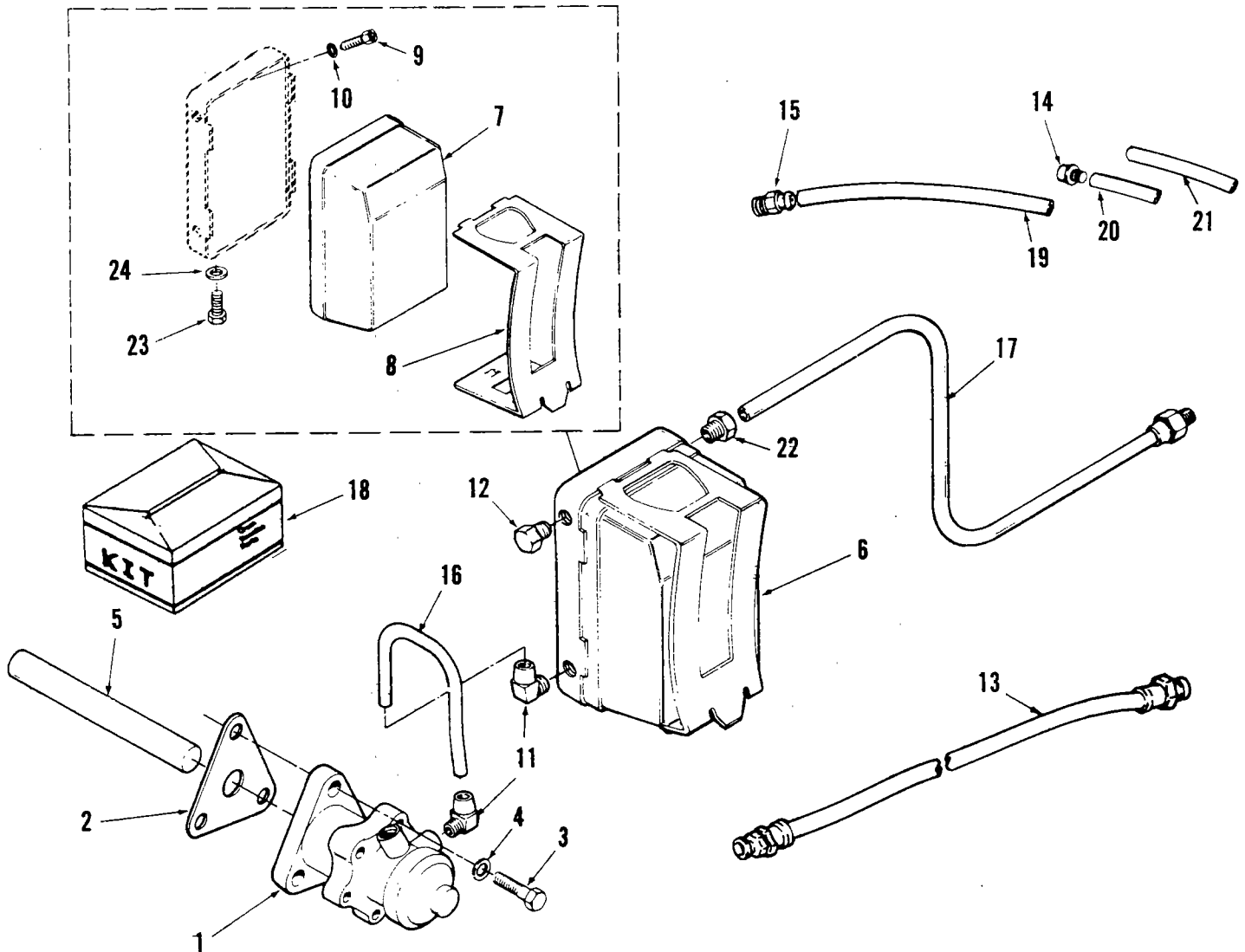
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	147-0464-08	1	Pump, Fuel Injection - Complete
1	147-0592	1	Strap, Terminal Grounding
2	147-0593	1	Solenoid and Frame Kit
3	147-0591	2	Washer, Terminal Insulating
4	147-0590	1	Gasket, Governor Cover
5	147-0589	1	Clip, Shaft Retaining
6	147-0588	2	Seal, Throttle Shaft
7	147-0587	2	Washer, Throttle Shaft Seal
8	147-0586	1	Washer, Guide Stud
9	147-0585	1	Gasket, Timing Line Cover
10	147-0584	1	Seal, Return Line Connector

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
11	147-0583	1	Seal, Locking Plate
12	147-0582	2	Seal, Pivot Shaft
13	147-0581	1	Seal, Advance Screw Hole Plug
14	147-0580	2	Seal, Head Locating Screws
15	147-0579	1	Connector, Return Line
16	147-0578	1	Nut, Drive Shaft
17	509-0265	1	Seal, Pilot Tube

Note: For component parts not listed contact manufacturer shown on nameplate.

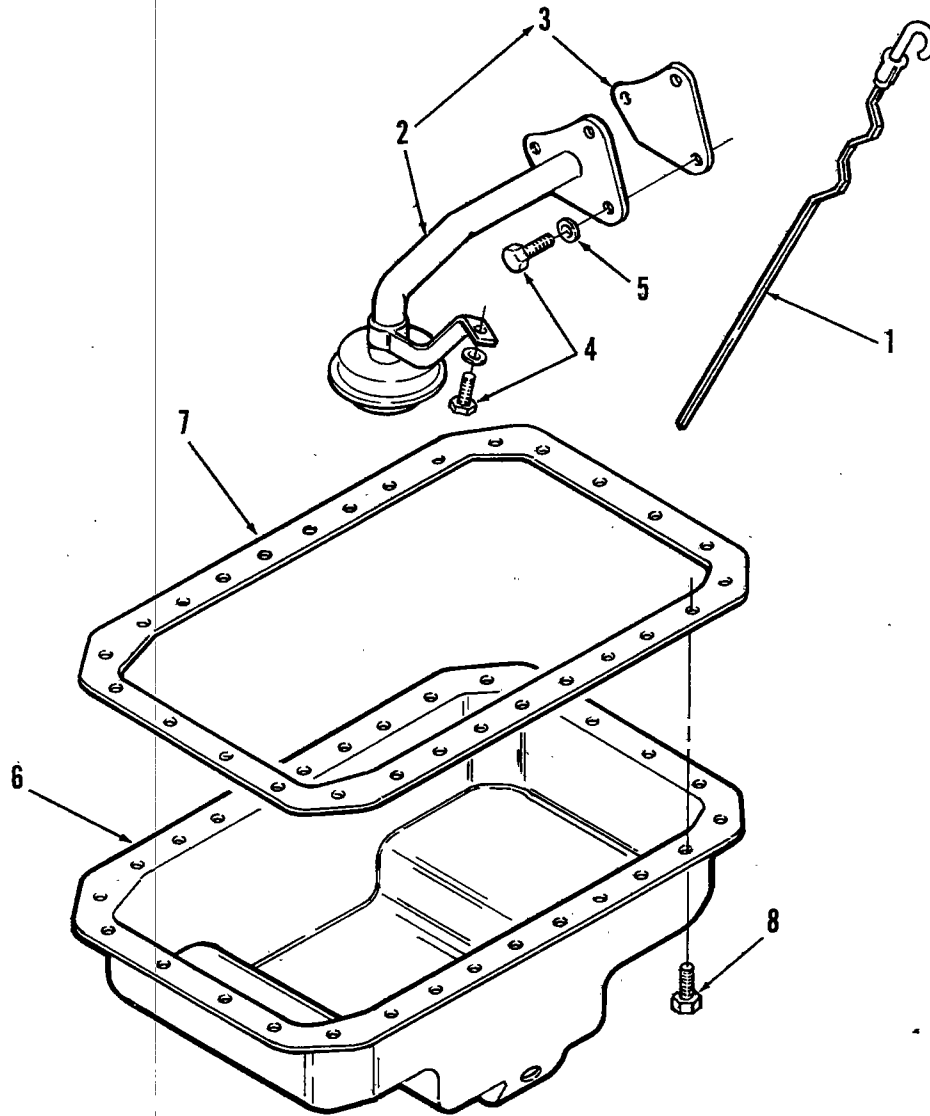


# Fuel System



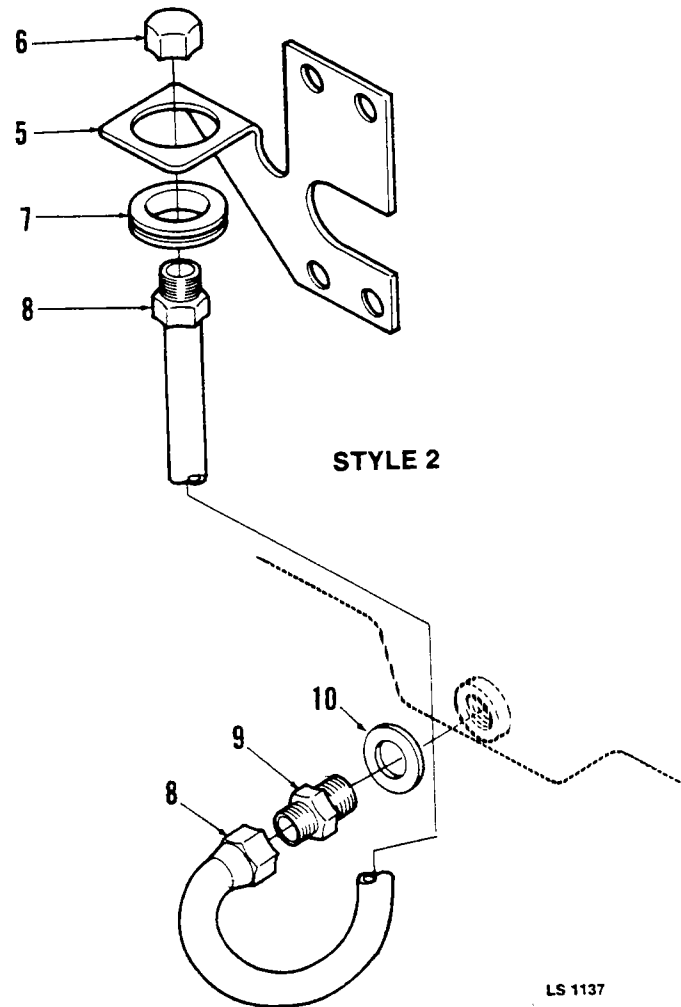
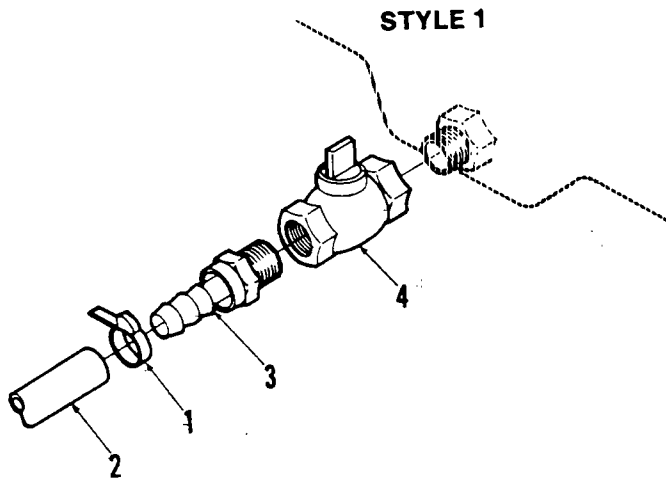
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-2067	1	Pump Kit, Fuel Transfer (Includes Mounting Gasket)	14	502-0736	1	Plug
2	149-1728	1	Gasket, Fuel Transfer Pump	15	502-0738	1	Connector, Male
3	718-1021	3	Screw, Cap - Hex Head (M6 x 20 MM)	16	149-1797	1	Line, Fuel
4	740-1004	3	Washer, Flat (M6)	17	149-1796	1	Line, Fuel
5	149-1732	1	Pushrod, Fuel Transfer Pump	18	149-2069	1	Repair Package - Transfer Pump
6	149-1755	1	Filter Assembly (Includes Filter, Base, Clamp, Drain Plug, Drain Seal and Plugs)	19	503-1055	1	Line, Fuel Return (Flexible) 380 MM Long
7	149-1754	1	Filter, Fuel	20	503-1054	1	Line, Fuel Return (Flexible) 25 MM Long
8	149-1801	1	Clamp, Fuel Filter	21	503-1053	5	Line, Fuel Return (Flexible) 180 MM Long
9	725-1074	2	Screw, Cap - Socket Head (M10 x 20 MM)	22	502-0773	1	Connector, Flareless Tube Fitting
10	740-1008	2	Washer, Flat (M10)	23	149-1835	1	Plug, Filter Drain
11	502-0774	2	Elbow, Flareless Tube Fitting	24	149-1836	1	Gasket, Filter Drain Plug
12	502-0153	2	Plug, Pipe (1/4")				
13	501-0441	1	Line, Flexible Fuel - 40" (Fuel Supply)				

# Oil Pan



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	123-1524	1	Indicator, Oil Level	5	740-1006	4	Washer, Flat (M8)
2	120-1006	1	Pickup Kit, Oil (Includes Gasket)	6	102-1190	1	Pan, Oil
3	120-0917	1	Gasket, Oil Pickup	7	102-1036	1	Gasket, Oil Pan
4			Screw, Cap - Hex Head	8	815-0547	36	Screw, Cap - Hex Head (M8 x 20 MM) Includes Washer
	718-1046	2	M8 x 70 MM				
	718-1036	2	M8 x 20 MM				

# Oil Drain Hardware



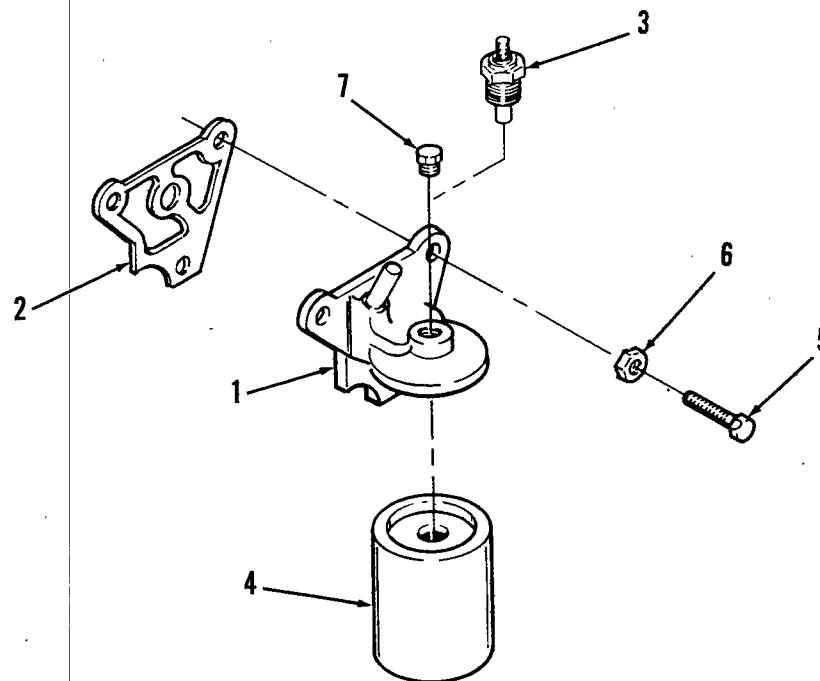
LS 1137

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0382	1	*Clamp, Hose
2	503-1069	1	*Hose, Oil Drain (14")
3	502-0415	1	*Adapter, Pipe to Hose
4	504-0011	1	*Valve, Shutoff
5	102-1235	1	#Bracket, Oil Drain
6	502-0876	1	#Cap, Pipe
7	508-0250	1	#Grommet

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	501-0482	1	#Line, Oil Drain (24")
9	102-1237	1	#Adapter, Oil Drain
10	102-1147	1	#Gasket

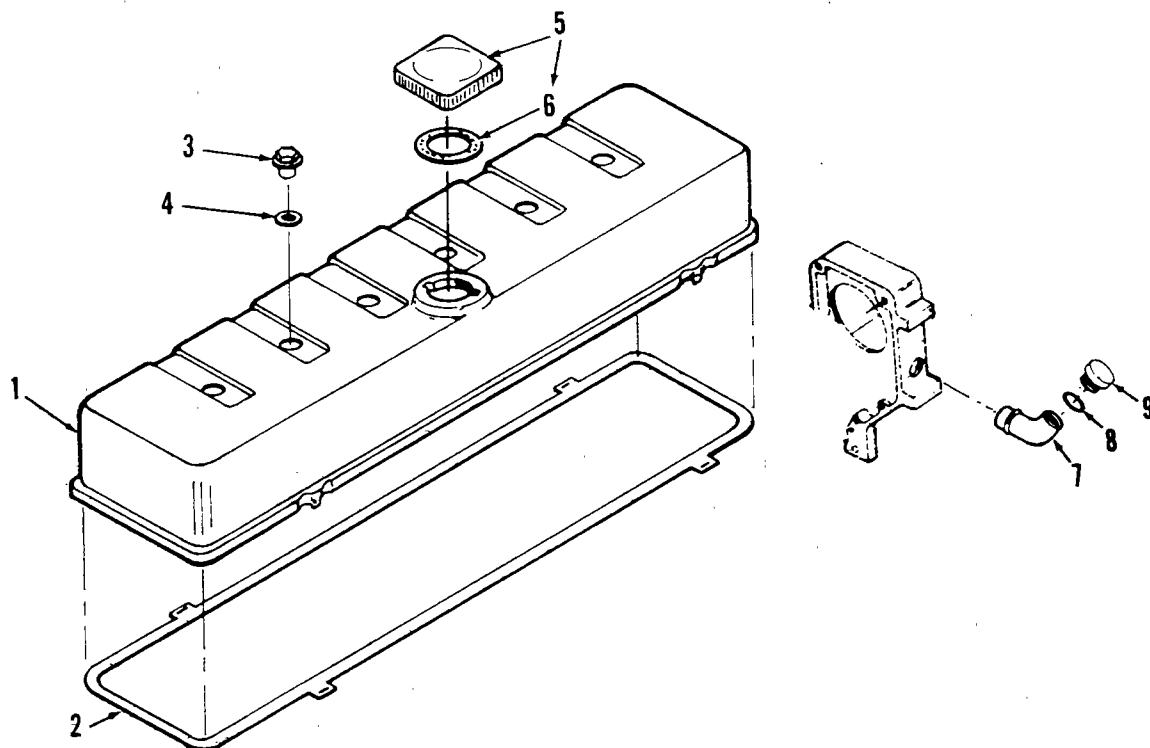
\* - Used During Early Portion of Spec A  
# - Use Began During Later Portion of Spec A

# Oil Filter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	122-0613	1	Adapter, Oil Filter (Includes Gasket)	4	122-0550	1	Filter, Oil
2	122-0635	1	Gasket, Adapter	5	725-1051	3	Screw, Cap - Socket Head (M8 x 25 MM)
3	193-0353	1	Sender, Oil Temperature (E3) Controls With 2 Indicator Lights and Oil Temperature Gauge	6	526-2108	3	Washer, Flat (M8)
				7	505-0274	1	Plug, Pipe - Countersunk (1/8")

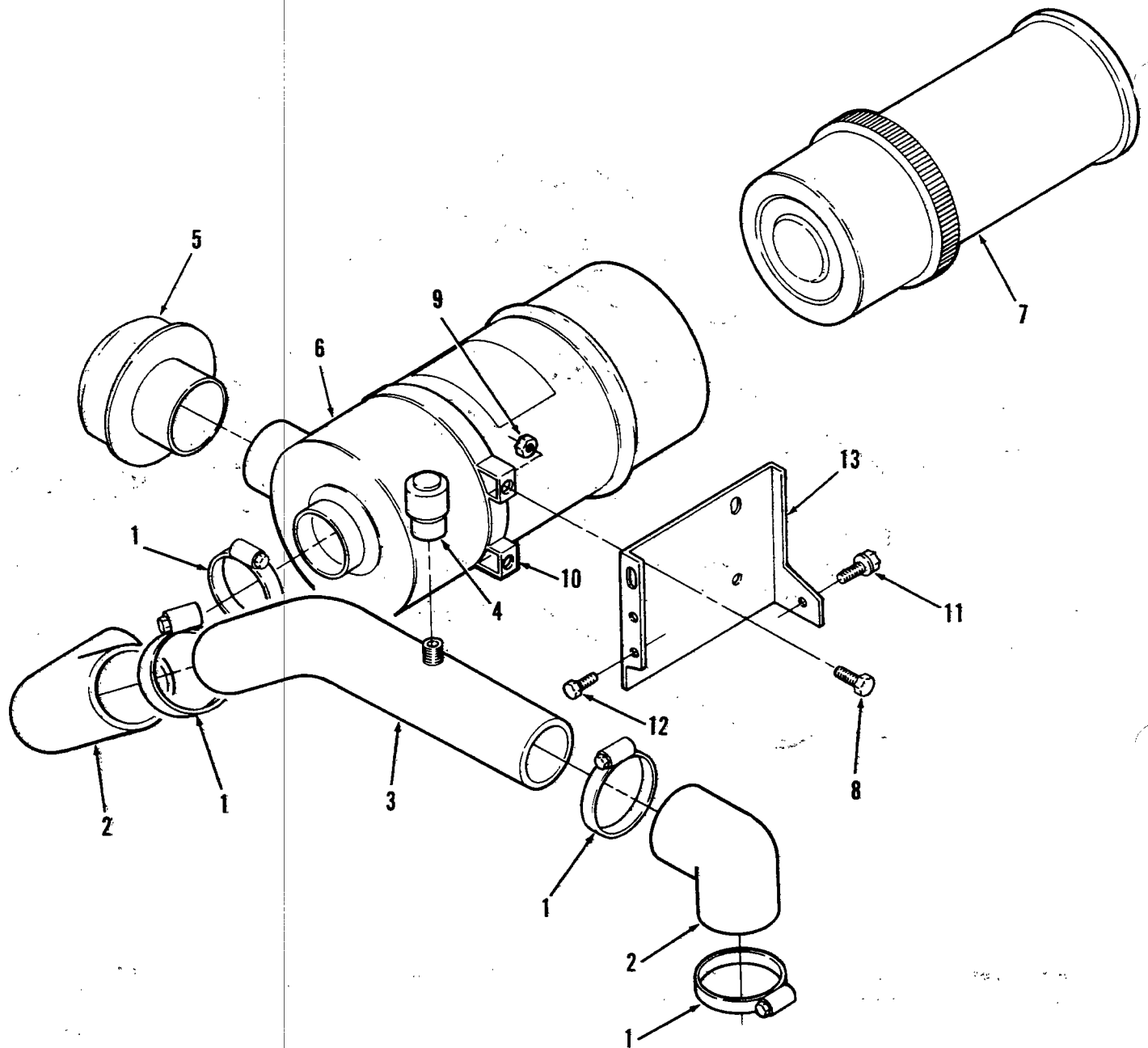
# Oil Fill



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	115-0346	1	Cover, Rocker
2	115-0244	1	Gasket, Rocker Cover
3	115-0320	6	Capnut, Rocker Cover
4	115-0232	6	Gasket, Capnut
5	123-1605	1	Cap, Oil Fill (Includes Gasket)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	123-1518	1	Gasket, Oil Fill Cap
7	123-1558	1	Tube, Oil Fill
8	509-0142	1	Seal, O-Ring
9	123-1647	1	Cap, Oil Fill

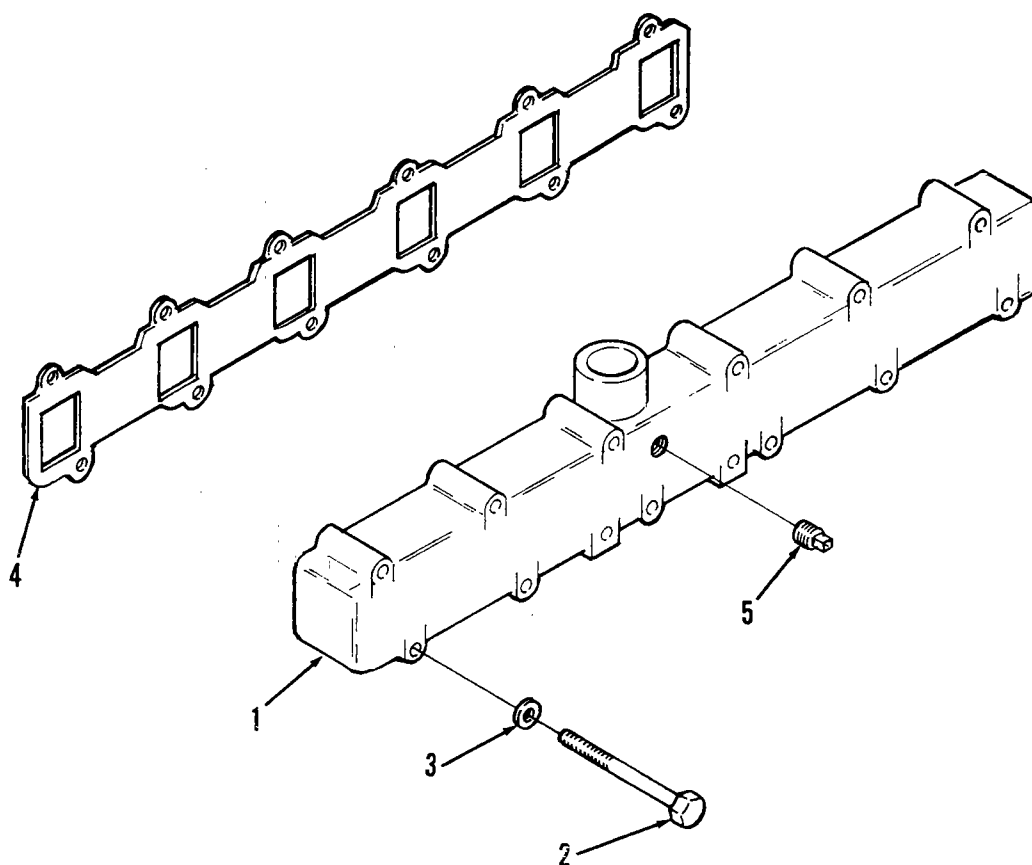
# Air Cleaner



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose
2	503-1222	2	Elbow, Rubber - 90°
3	140-1802	1	Tube, Air Inlet
4	140-1791	1	Indicator, Service
5	140-1435	1	Hood, Air Cleaner
6	140-1794	1	Cleaner, Air (Includes Element)
7	140-1455	1	Element, Air Cleaner
8	821-2046	4	Screw, Self-locking - Hex Washer Head (M8 x 20 MM)

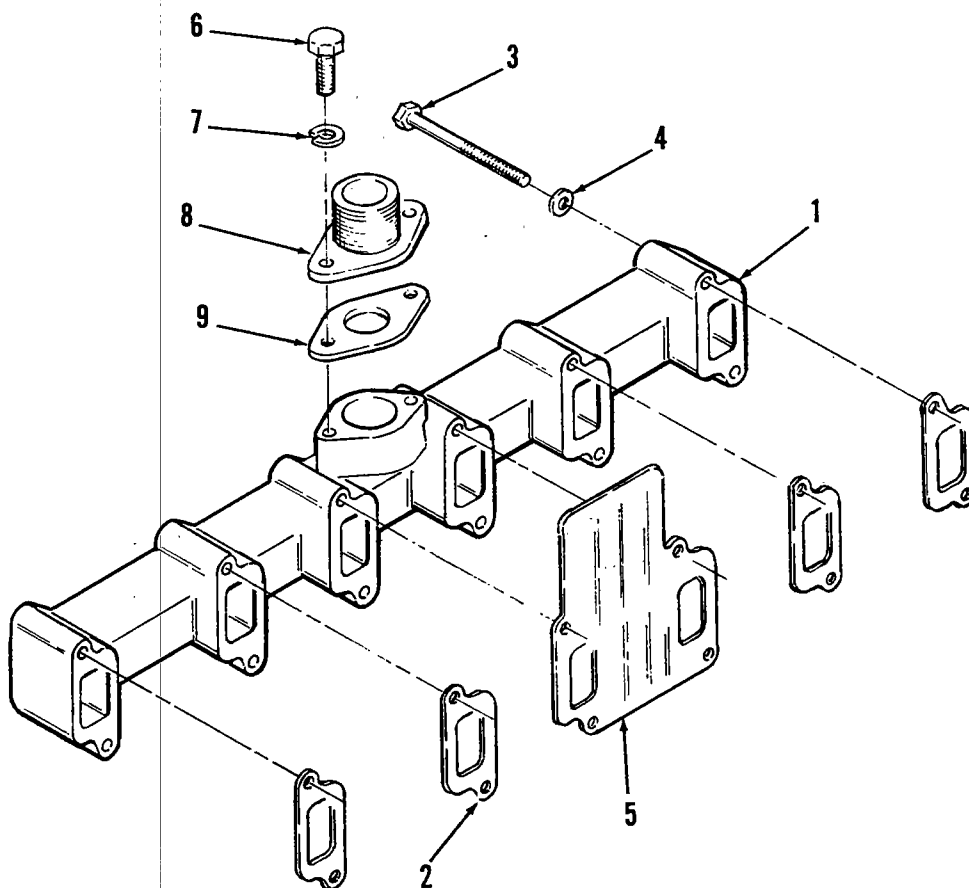
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
9	870-2055	4	Nut, Self-locking - Hex Washer Head (M8)
10	140-0317	2	Band, Mounting
11	821-2076	1	Screw, Self-locking - Hex Washer Head (M12 x 25 MM)
12	821-2060	2	Screw, Self-locking - Hex Washer Head (M10 x 20 MM)
13	140-1772	1	Bracket, Mounting

# Intake Manifold



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-2461	1	Manifold, Intake (Includes Plug)	3	740-1006	12	Washer, Flat (M8)
2	718-1801	12	Screw, Cap - Hex Head (M8 x 85 MM)	4	154-2300	1	Gasket, Intake Manifold
				5	505-0274	1	Plug, Pipe (1/8")

# Exhaust Manifold

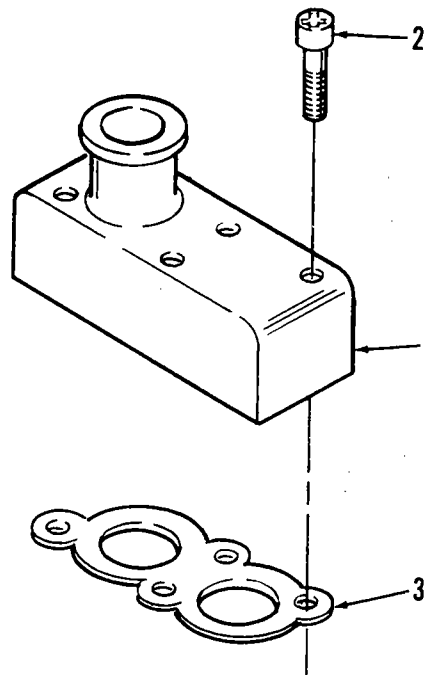


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-2389	1	Manifold, Exhaust
2	154-2162	4	Gasket, Exhaust Manifold
3	800-2524	12	Screw, Cap - Hex Head (M8 x 90 MM)
4	740-1006	12	Washer, Flat (M8)
5	154-2325	1	Gasket, Exhaust Manifold

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	800-2085	2	Screw, Cap - Hex Head (M10 x 20 MM)
7	850-2010	2	Washer, Lock (M10)
8	155-1916	1	Flange, Exhaust
9	155-1920	1	Gasket, Exhaust Flange

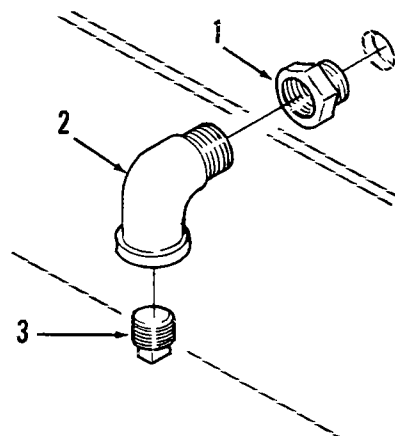


## Coolant Outlet Connector



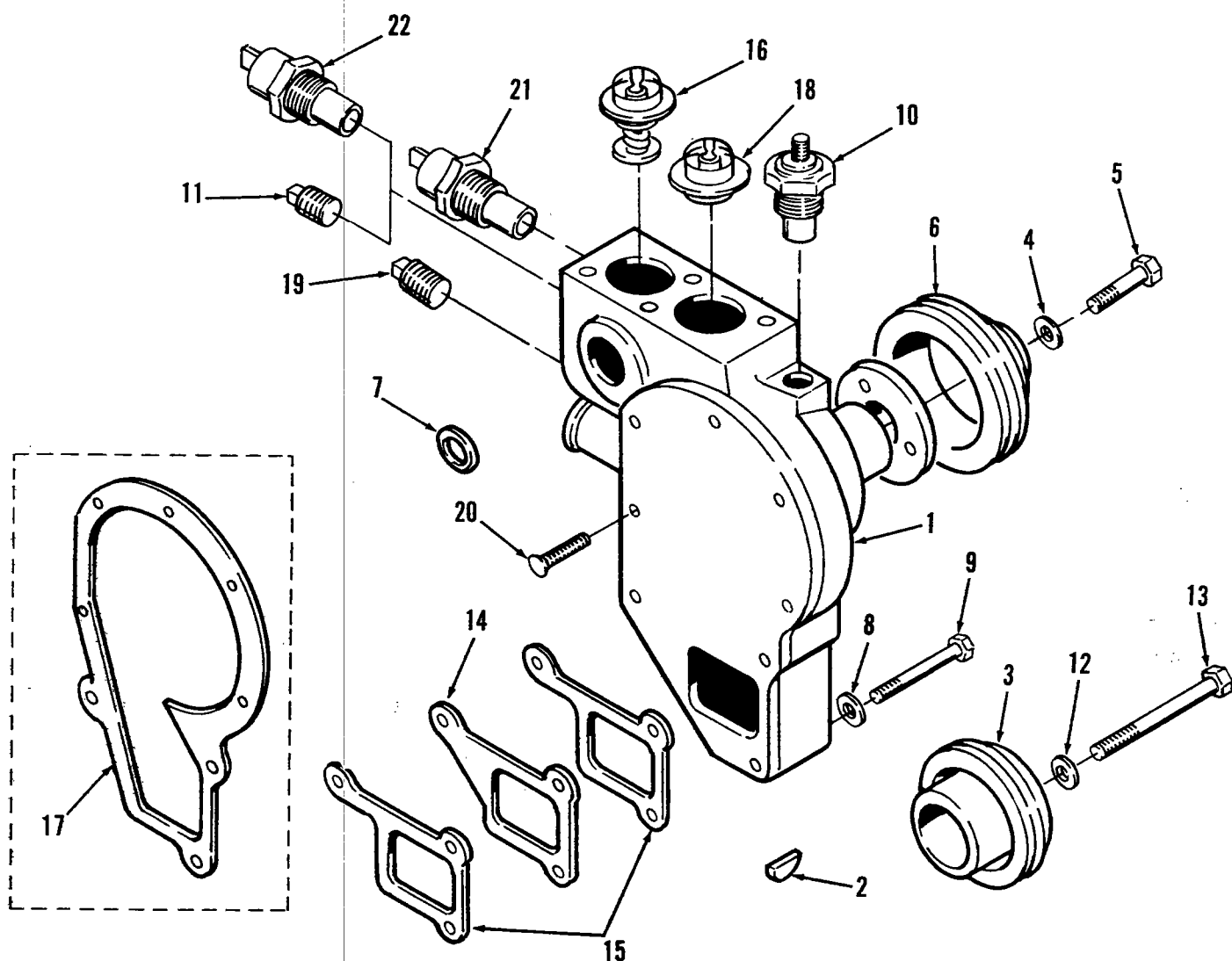
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	309-0473	1	Cover, Thermostat (Includes Gasket)
2	725-1056	4	Screw, Cap - Socket Head (M8 x 50MM)
3	309-0424	1	Gasket, Thermostat Cover

## Coolant Heater Connection



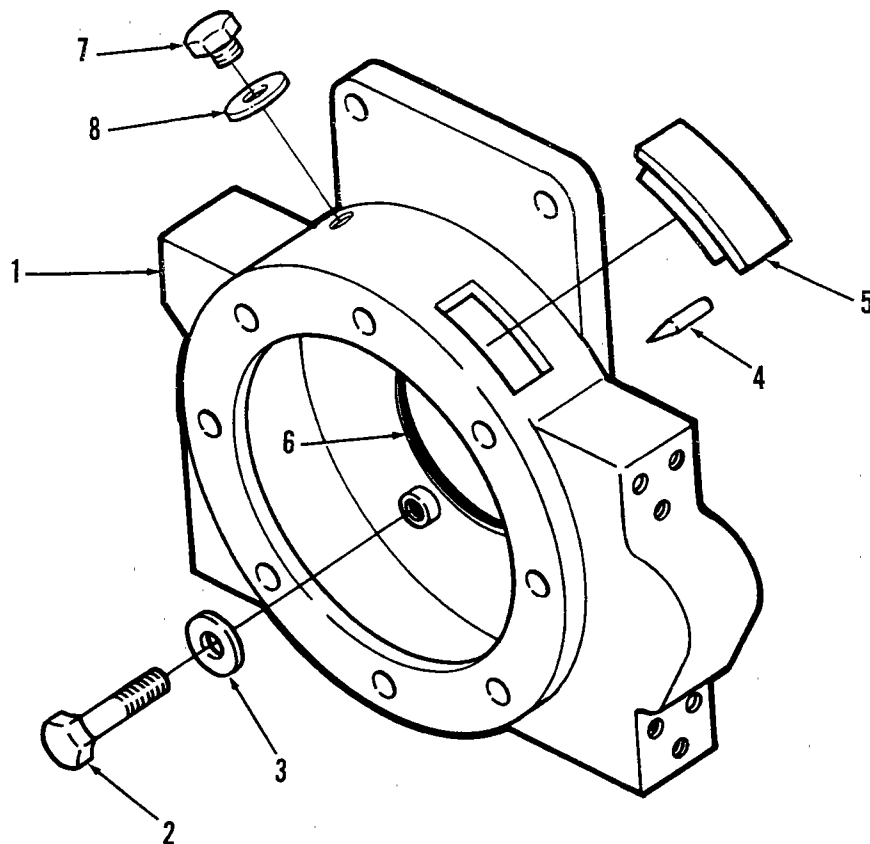
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	505-0017	1	Bushing
2	502-0156	1	Elbow, Street
3	502-0153	1	Plug, Brass

# Coolant Pump



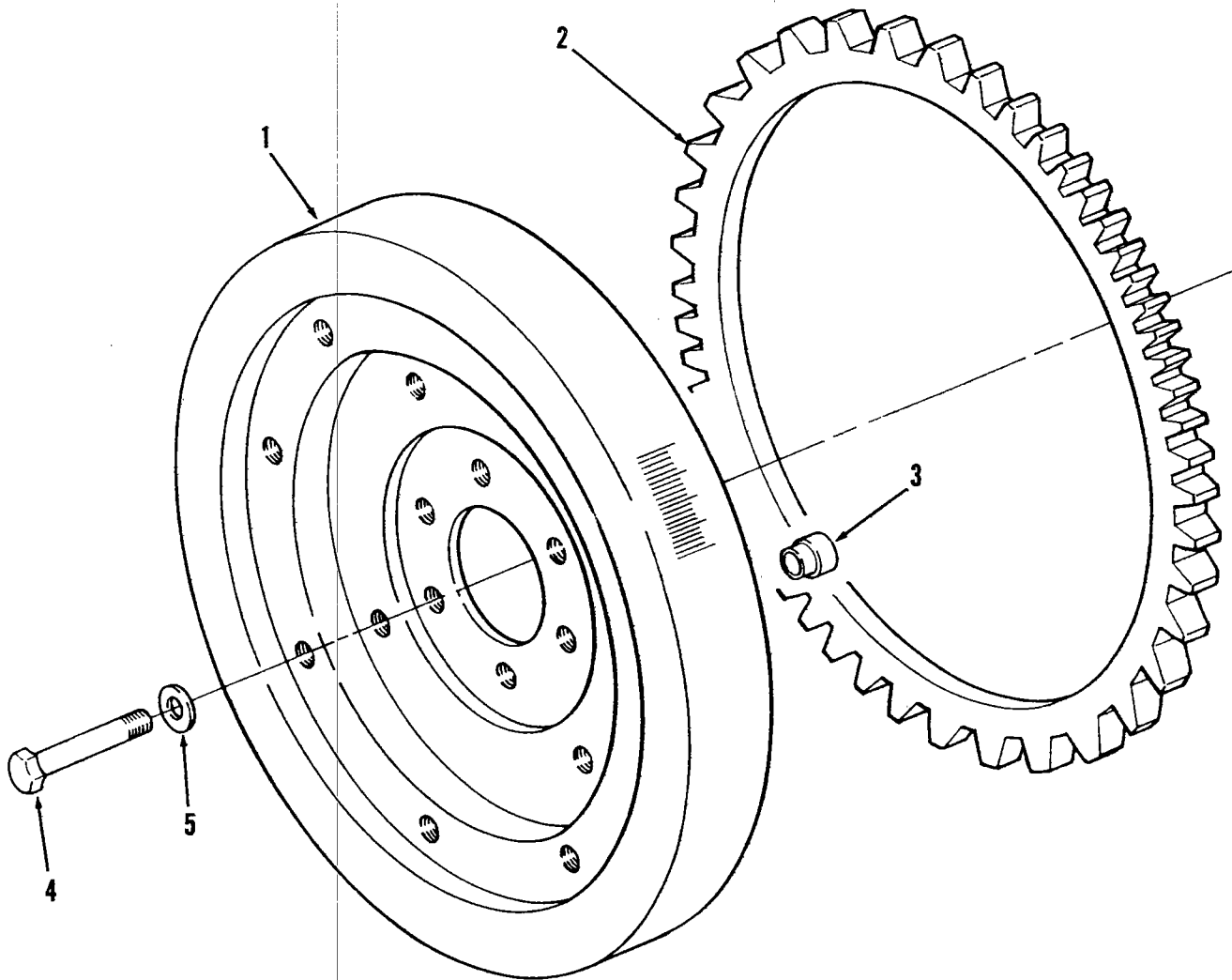
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	131-0349	1	Kit, Coolant Pump (Includes Mounting Gaskets)	15	131-0294	2	Gasket, Pump Mounting
2	515-0245	1	Key - Crankshaft Pulley	16	309-0458	1	Kit, Thermostat (192°) Includes Cover Gasket
3	104-1468	1	Pulley, Crankshaft	17	131-0335	1	Gasket, Backplate
4	740-1006	4	Washer, Flat (M8)	18	309-0462	1	Kit, Thermostat (180°) Includes Cover Gasket
5	718-1035	4	Screw, Cap - Hex Head (M8 x 16 MM)	19	502-0317	1	Plug, Pipe (3/4")
6	131-0347	1	Pulley, Coolant Pump	20	815-0612	5	Screw, Countersunk - Flat Head - Torque Drive (Special)
7	509-0264	1	Seal, O-Ring	21	309-0437	1	Switch, Thermostat - High Engine Coolant Temperature (S1) (Opens at 202° F. - Closes at 222° F.)
8	740-1006	3	Washer, Flat (M8)	22	309-0436	1	Switch, Thermostat - High Engine Coolant Temperature (S2 - Pre-Alarm) (Opens at 196° F. - Closes at 216° F.) Controls With 9 Indicator Lights
9	718-1044	3	Screw, Cap - Hex Head (M8 x 60 MM)				
10	193-0318	1	Sender, Water Temperature (E2)				
11	502-0775	1	Plug, Pipe (3/8") Controls with 2 Indicator Lights				
12	526-0283	1	Washer, Flat (M8)				
13	720-1123	1	Screw, Cap - Hex Head (M16 x 60 MM)				
14	131-0324	1	Spacer, Coolant Pump				

## Flywheel Housing



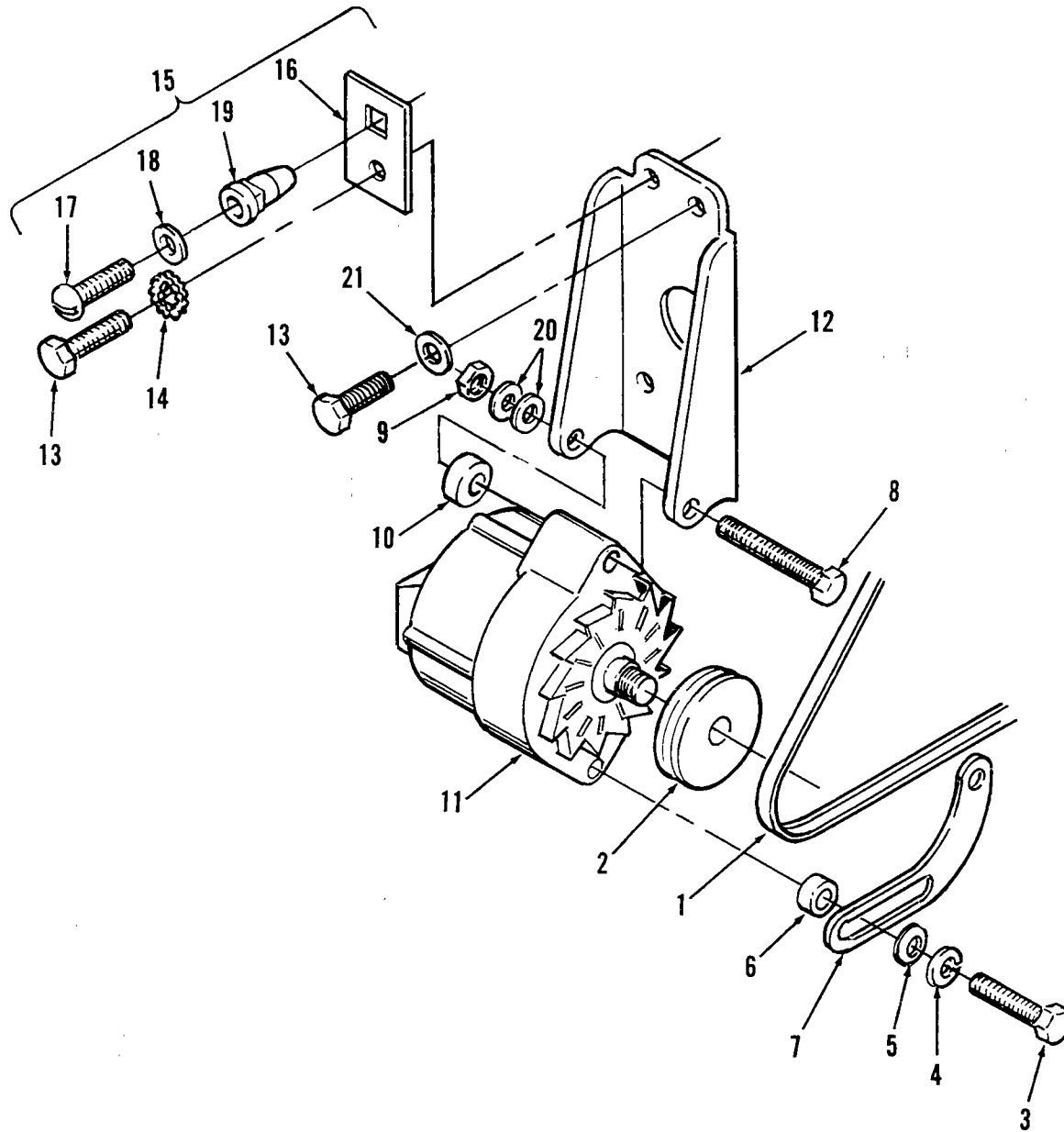
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Housing, Flywheel (Includes Seal and Indicator)	2	718-1078	6	Screw, Cap - Hex Head (M12 x 50 MM)
	101-0740-02	1	With Magnetic Pickup Hole Drilled 47° From Horizontal	3	740-1801	6	Washer, Flat (M12)
	101-0740-01	1	With Magnetic Pickup Hole Drilled 70° From Horizontal	4	160-1292	1	Indicator, Timing
				5	101-0592	1	Plug, Timing Window
				6	101-0630	1	Seal, Flywheel Housing
				7	505-2012	1	Plug, Hex
				8	740-1014	1	Washer, Flat (M16)

# Flywheel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	104-1503	1	Flywheel Assembly (Includes Ring Gear and Alignment Pin)	4	720-1804	6	Screw, Cap - Flange Hex Head (M10 x 38 MM)
2	104-1185	1	Gear, Ring	5	740-1008	6	Washer, Flat (M10)
3	104-1171	1	Pin, Alignment				

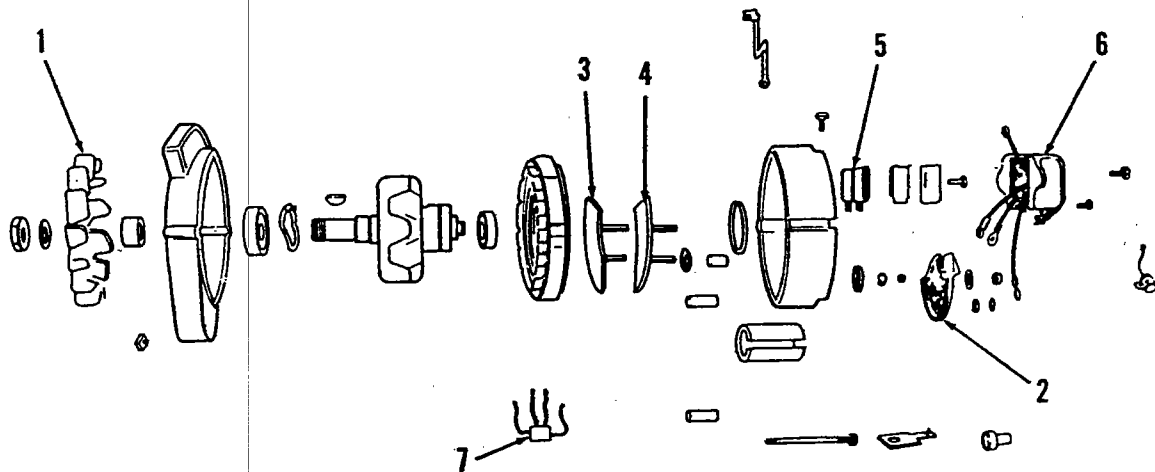
# Alternator



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	511-0147-07	2	Belt	13	718-1037	4	Screw, Cap - Hex Head (M8 x 25 MM)
2	191-1333	1	Pulley	14	856-0010	1	Washer, Lock - EIT (3/8")
3	800-2060	1	Screw, Cap - Hex Head (M8 x 35 MM)	15	332-1292	1	Terminal Assembly (Includes Parts Marked *)
4	850-2008	1	Washer, Lock - Spring (M8)	16	332-1281	1	*Bracket, Terminal
5	526-2106	1	Washer, Flat (M8)	17	809-0035	1	*Screw, Sheet Metal - Round Head (#8 x 3/4")
6	191-1541	1	Spacer	18	508-0015	1	*Washer, Fiber
7	191-1312	1	Strap, Adjusting	19	870-0196	1	*Nut, Insulation
8	800-2100	1	Screw, Cap - Hex Head (M10 x 100 MM)	20	740-1008	2	Washer, Flat (M10)
9	860-2009	1	Nut, Hex (M10)	21	740-1006	3	Washer, Flat (M8)
10	191-1321	1	Spacer				
11	191-1525	1	Alternator (37 Amp) See Separate Page for Components				
12	191-1332	1	Bracket, Mounting				

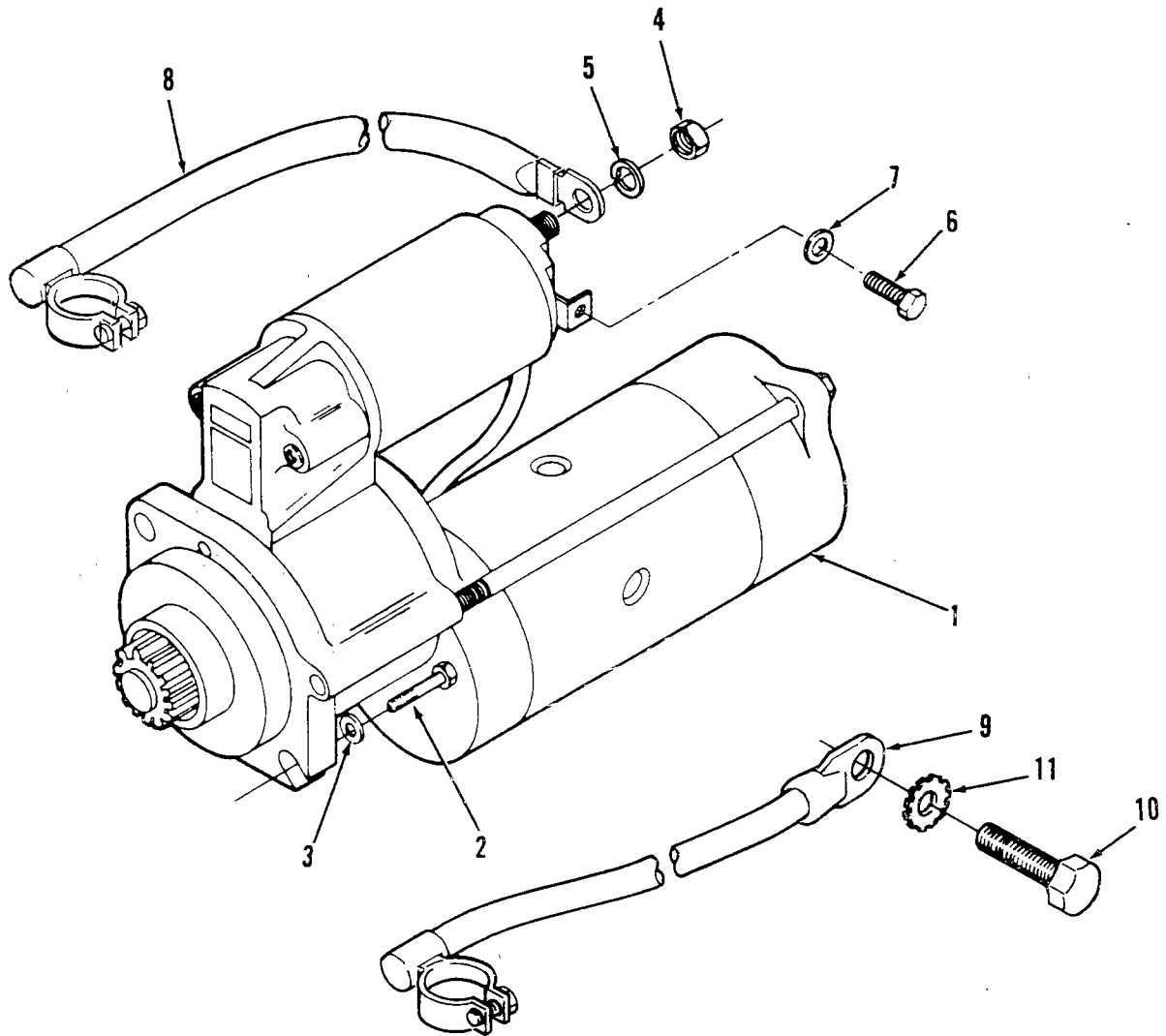
\* - Parts Included in 332-1292 Terminal Assembly

# Alternator Components



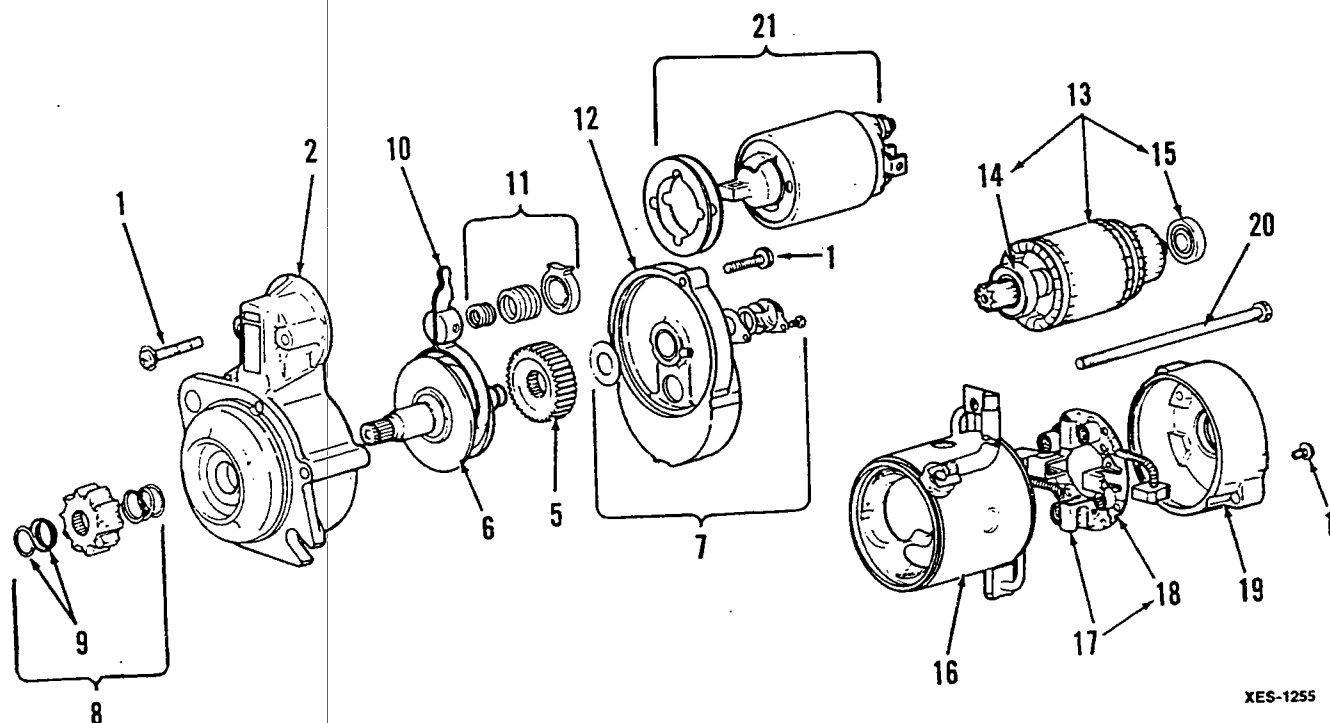
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	191-1525	1	Alternator (Complete) Used on Late Models - Has No Isolation Diodes on Back Side of Alternator (Replaces Early Models With Isolation Diode Assembly on Back Side of Alternator)	4	191-1452	1	Diode, Rectifier - Positive Used on Early Models with Isolation Diode Assembly
1	191-0943	1	Fan, Alternator		191-1559	1	Used on Late Models without Isolation Diode Assembly
2	191-1454	1	Diode Assembly, Isolation - Used on Early Models	5	191-0659	1	Brush Assembly Used on Early Models with Isolation Diode Assembly
3	191-1453	1	Diode, Rectifier - Negative Used on Early Models with Isolation Diode Assembly		191-1558	1	Used on Late Models without Isolation Diode Assembly
	191-1560	1	Used on Late Models without Isolation Diode Assembly	6	191-1457	1	Regulator, Voltage Used on Early Models with Isolation Diode Assembly
					191-1557	1	Used on Late Models without Isolation Diode Assembly
				7	191-1556	1	Diode, Trio - Used on Late Models without Isolator Diode Assembly

# Starter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1394	1	Starter (Includes Switch Terminal Hardware) (See Separate Page for Components)	7	850-2005	1	Washer, Lock - Spring (M5) Solenoid Terminal
2	720-1806	2	Screw, Cap - Flanged Hex Head (M12 x 30 MM)	8	416-0618	1	Cable, Battery - 42" (Positive)
3	740-1010	2	Washer, Flat (M12)	9	416-0530	1	Cable, Battery - 16" (Negative)
4	860-2008	1	Nut, Hex (M8) B+ Terminal	10	800-2110	1	Screw, Cap - Hex Head (M12 x 20 MM)
5	850-2008	1	Washer, Lock - Spring (M8) B+ Terminal	11	856-0013	1	Washer, Lock - EIT (1/2")
6	718-1002	1	Screw, Cap - Hex Head (M5 x 8 MM) Solenoid Terminal				

## Starter Components

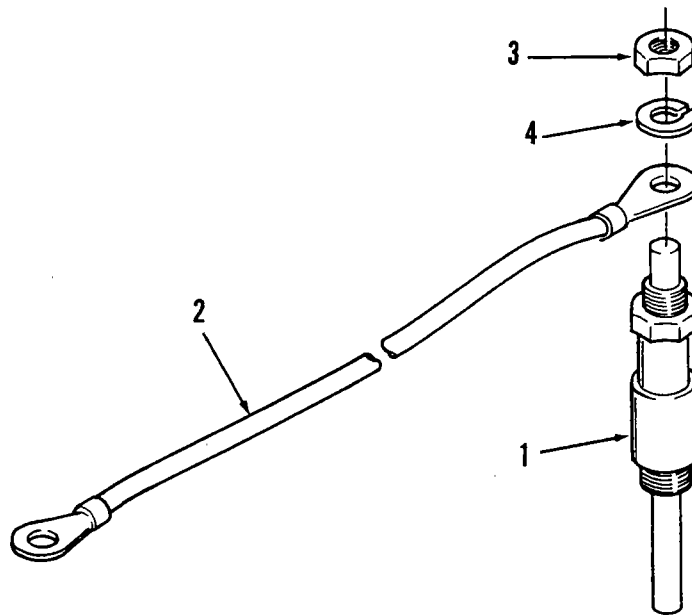


XES-1255

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	191-1394	1	Starter (Complete)	12	191-1439	1	Bracket Assembly, Center
1	191-1450	1	Screw Set	13	191-1438	1	Armature Assembly (Includes Bearings)
2	191-1449	1	Bracket Assembly, Front (Includes Bearing)	14	191-1437	1	Bearing, Center
5	191-1446	1	Gear	15	191-1436	1	Bearing, Rear
6	191-1445	1	Clutch	16	191-1435	1	Yoke Assembly (Includes Pole Shoes, Field Coil and Positive Brushes)
7	191-1444	1	Cover Set (Includes Cover, Plate, Washers, Snap Ring, and Screws)	17	191-1434	1	Holder, Brush (Includes Negative Brushes)
8	191-1443	1	Pinion Set (Includes Pinion, Spring, and Stopper Set)	18	191-1433	4	Spring, Brush
9	191-1442	1	Stopper Set (Includes Stopper and Ring)	19	191-1432	1	Bracket, Rear
10	191-1441	1	Lever Assembly	20	191-1431	1	Bolt Set
11	191-1440	1	Spring Set	21	191-1430	1	Switch Assembly

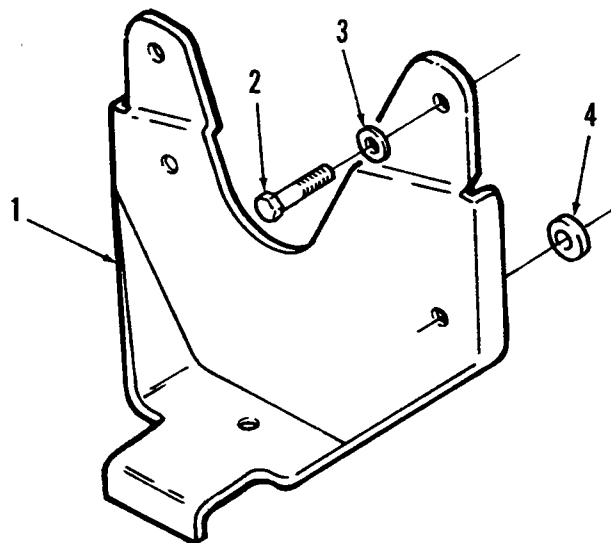


## Glow Plug



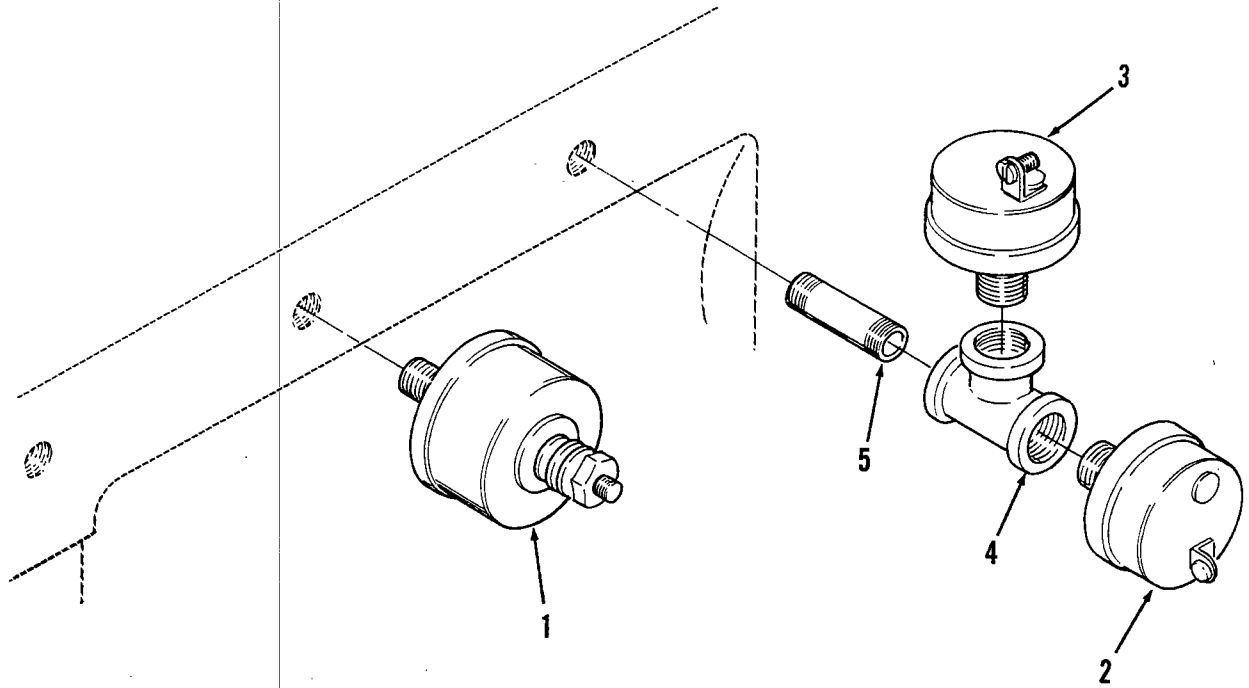
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	333-0220	6	Plug, Glow	3	750-1002	6	Nut, Hex (M5)
2	336-4131	5	Lead, Glow Plug	4	850-2005	6	Washer, Lock - Spring (M5)

## Front Engine Mount



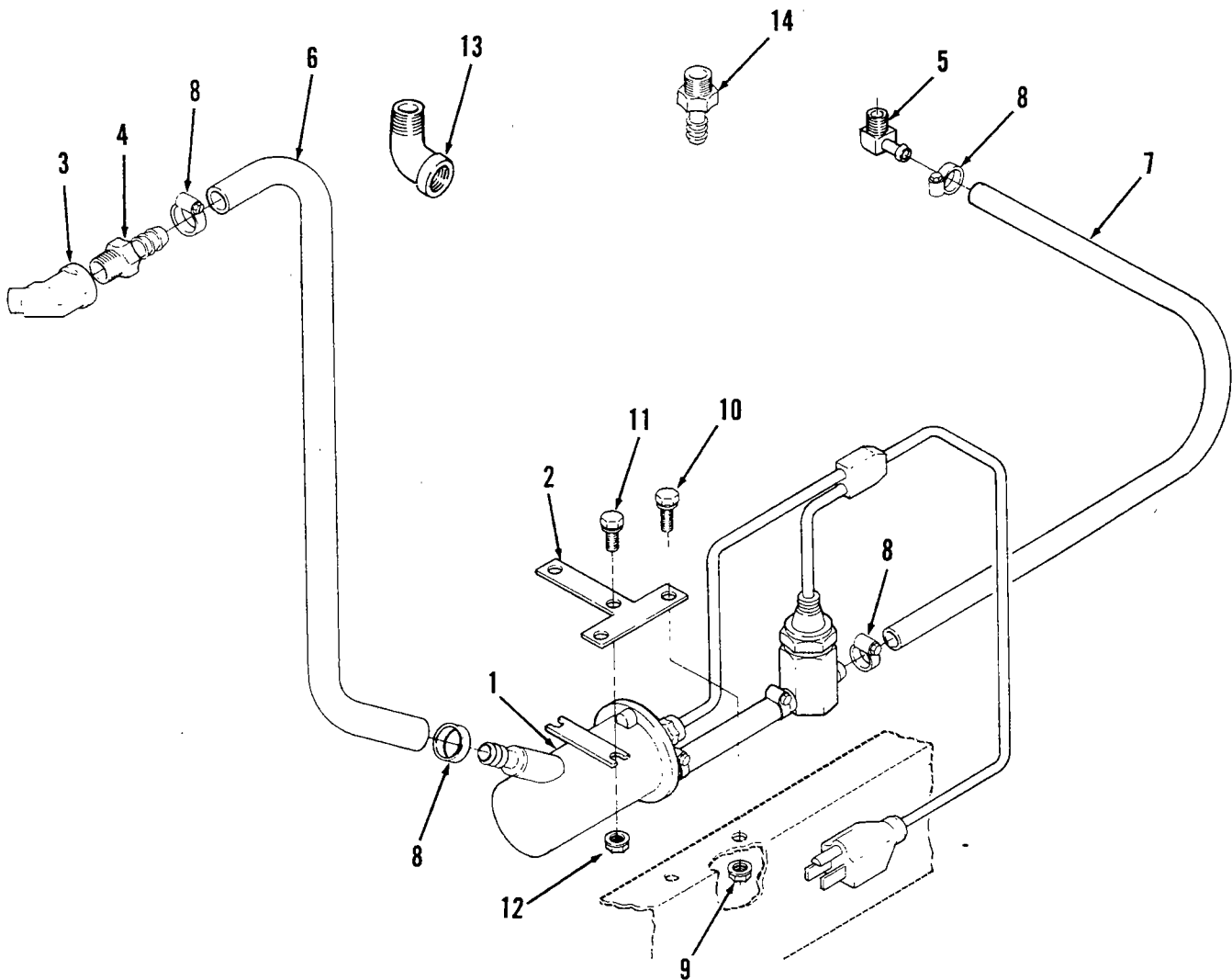
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-1925	1	Bracket, Mount	3	740-1010	4	Washer, Flat (M12)
2			Screw, Cap - Hex Head	4	403-1932	2	Spacer, Bracket Mounting
	718-1086	2	M12 x 90 MM (Top)				
	718-1802	2	M12 x 95 MM (Bottom)				

# Oil Pressure Switch



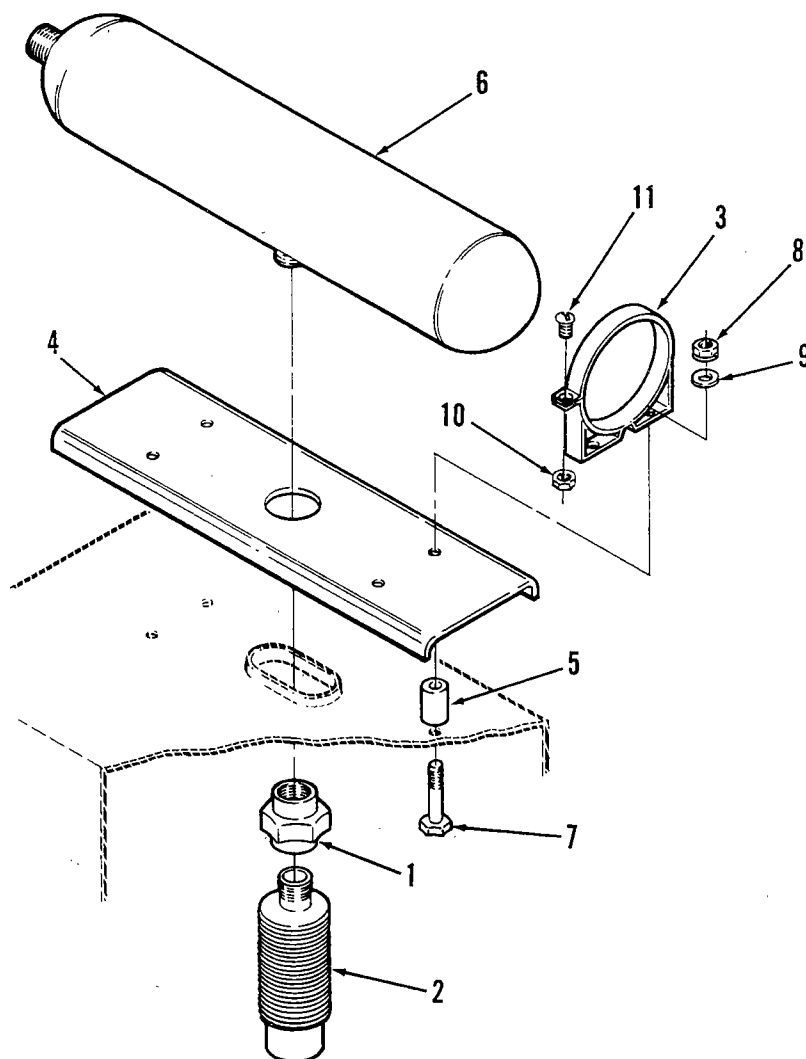
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	193-0244	1	Sender, Oil Pressure (E1)	4	505-0059	1	Tee, Pipe (1/8") (Controls with 9 Indicator Lights)
2	309-0169	1	Switch, Oil Pressure (S3)	5	505-0098	1	Nipple, Pipe (1/8" x 3/4") (Controls with 9 Indicator Lights)
3	309-0272	1	Switch, Oil Pressure (S4 - Pre-Alarm) Closes at 20 lbs. Descending (Controls with 9 Indicator Lights)				

# Engine Coolant Heater



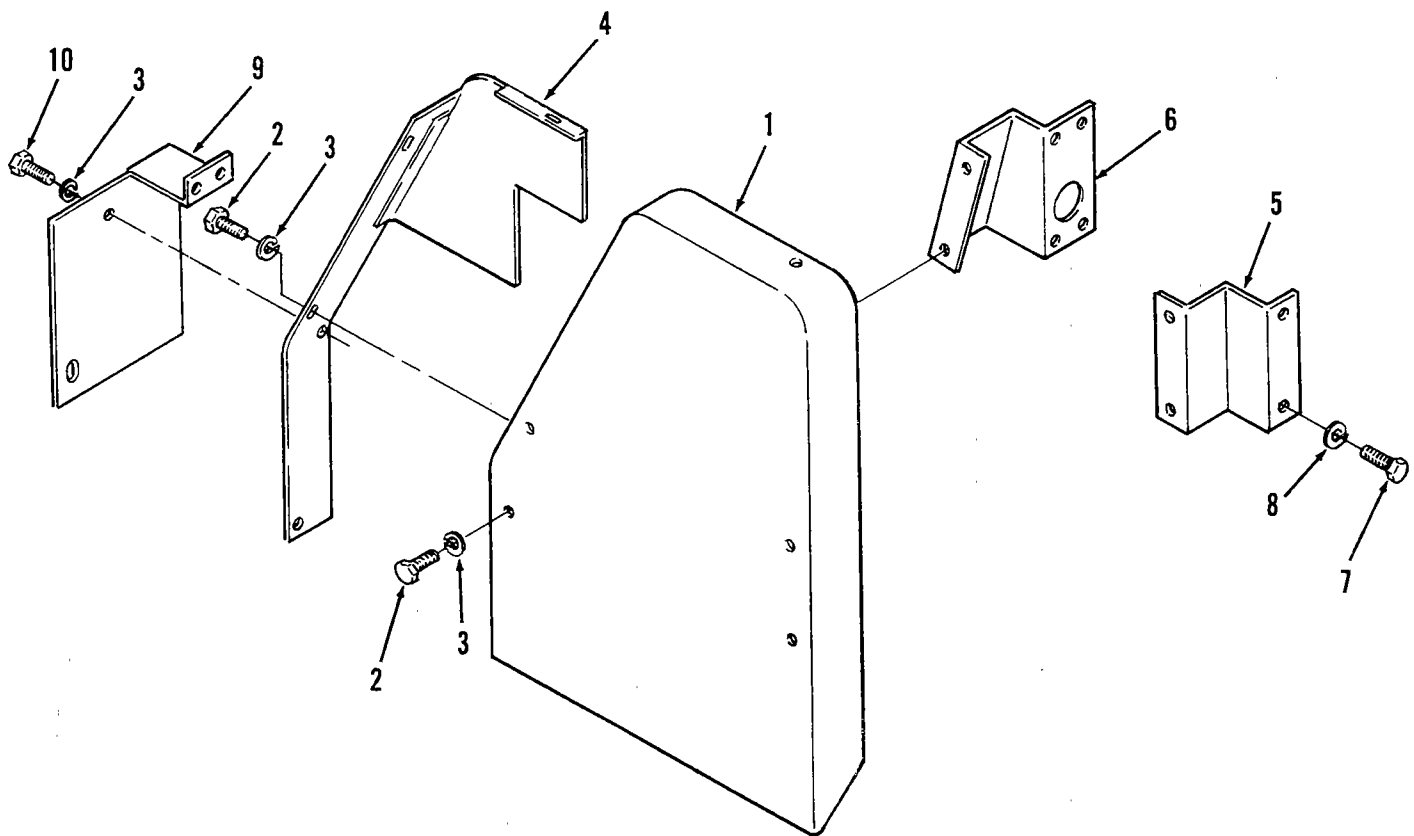
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	333-0255-03	1	Heater, Engine Coolant 1250 Watt, 120 Volt AC, Single Phase	9	870-2056	2	Nut, Self-locking - Flange (M10)
	333-0255-06	1	1250 Watt, 240 Volt AC, Single Phase	10	821-2061	2	Screw, Self-locking - Flange (M10 x 25 MM)
2	130-2246	1	Plate, Mounting	11	821-2033	2	Screw, Self-locking - Flange (M6 x 16 MM)
3	502-0156	1	Elbow, Street - 45° (1/4")	12	870-2054	2	Nut, Self-locking - Flange (M6)
4	502-0613	1	Connector, Hose (1/4" Pipe to 5/8" Hose)	13	505-0120	1	Elbow, Pipe - 90° (3/8") Used on some early Spec A models
5	502-0817	1	Elbow, Pipe to Hose - 90° (3/8" Pipe to 5/8" Hose)	14	502-0816	1	Connector, Hose (3/8" Pipe to 5/8" Hose) Used on some early Spec A models
6	503-0833	1	Hose, Rubber (5/8" ID x 19")				
7	503-1169	1	Hose, Rubber (5/8" ID x 37")				
8	503-0183	4	Clamp, Hose				

# **Muffler (Housed Set)**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	505-0454	1	Union, Pipe (2")	7	800-2069	4	Screw, Cap - Hex Head (M8 x 80 MM)
2	155-2007	1	Tube, Exhaust - Flexible	8	870-2055	4	Nut, Self-locking - Hex Washer Head (M8)
3	140-0752	2	Standard	9	526-2100	8	Washer, Flat (M8)
	140-2140	2	Stainless Steel	10	862-0014	2	Nut, Hex (5/16-18) Used With Stainless Steel Mounting Band
4	155-1931	1	Shield, Heat Standard	11	812-0335	2	Screw, Machine - Round Head (5/16-18 x 1-1/2") Used With Stainless Steel Mounting Band
	155-2239	1	Stainless Steel				
5	155-1430	4	Spacer				
6			Muffler, Exhaust				
	155-1614	1	Standard				
	155-2240	1	Stainless Steel				

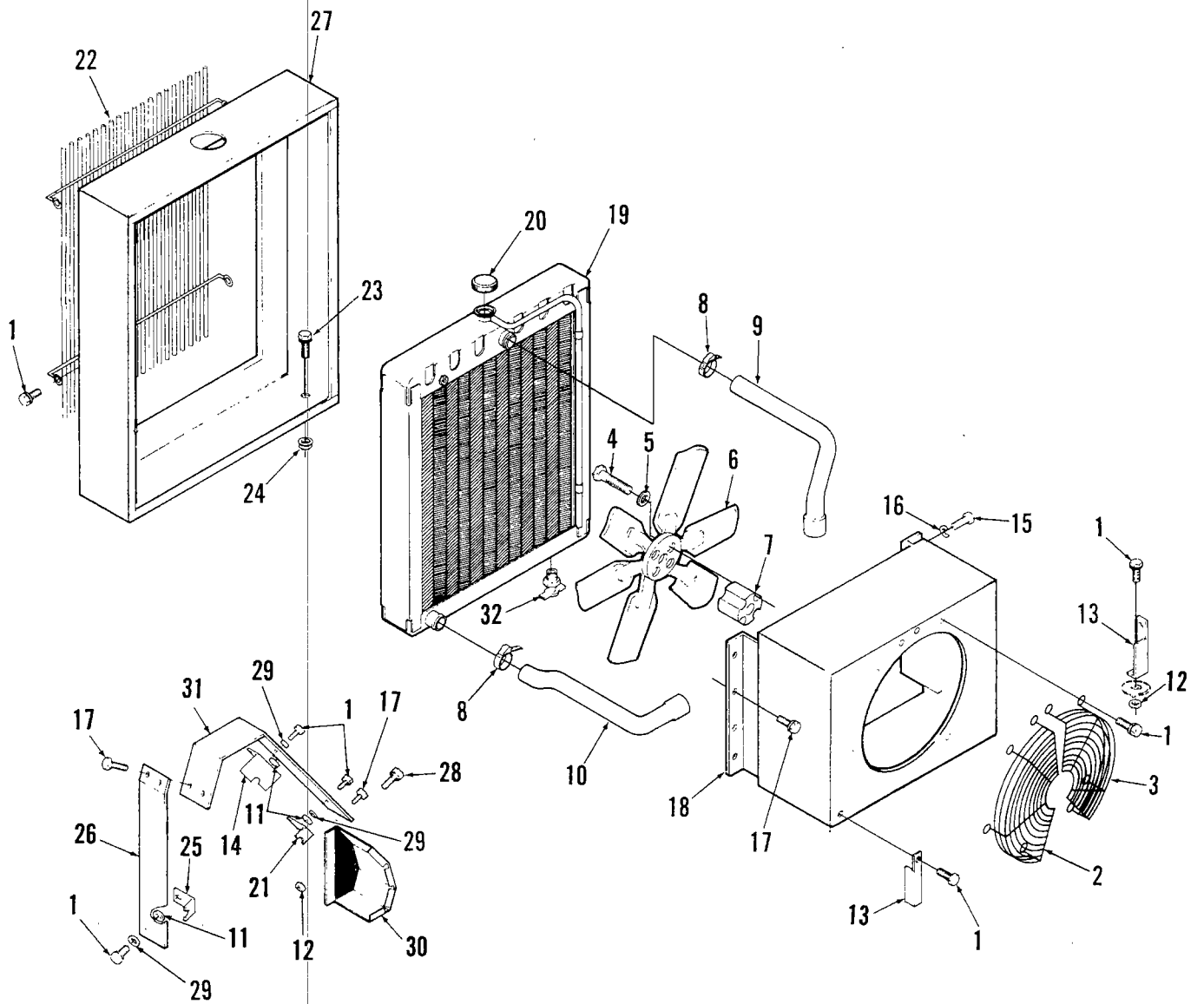
# **Belt Guard (With Remote Radiator)**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-2792	1	Panel, Front
2	800-2029	8	Screw, Cap - Hex Head (M6 x 12 MM)
3	850-2006	9	Washer, Lock - Spring (M6)
4	130-2788	1	Panel, Side
5	130-2785	1	Bracket, Belt Guard (Left Hand)
6	130-2786	1	Bracket, Belt Guard (Right Hand)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	800-2056	2	Screw, Cap - Hex Head (M8 x 16 MM)
8	850-2008	2	Washer, Lock - Spring (M8)
9	191-1678	1	Guard, Alternator
10	718-1021	1	Screw, Cap - Hex Head (M6 x 20 MM)

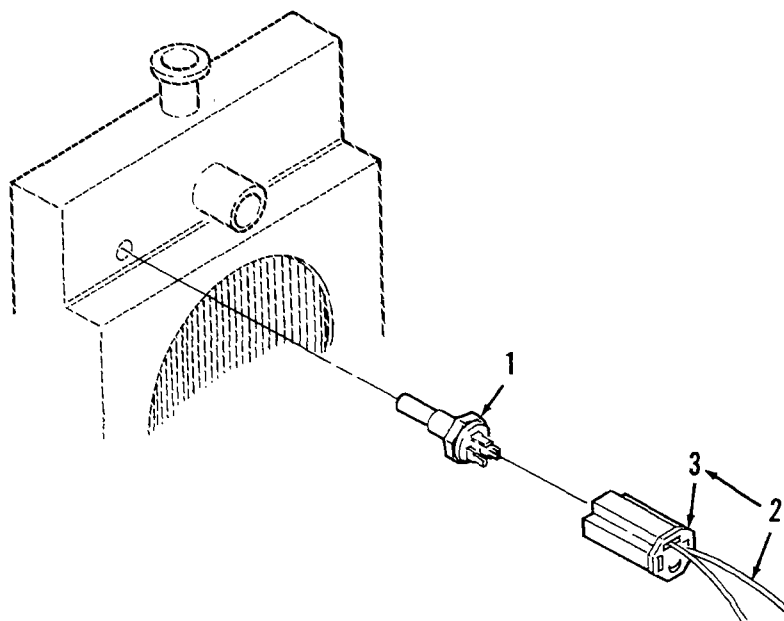
# Cooling System



## Cooling System

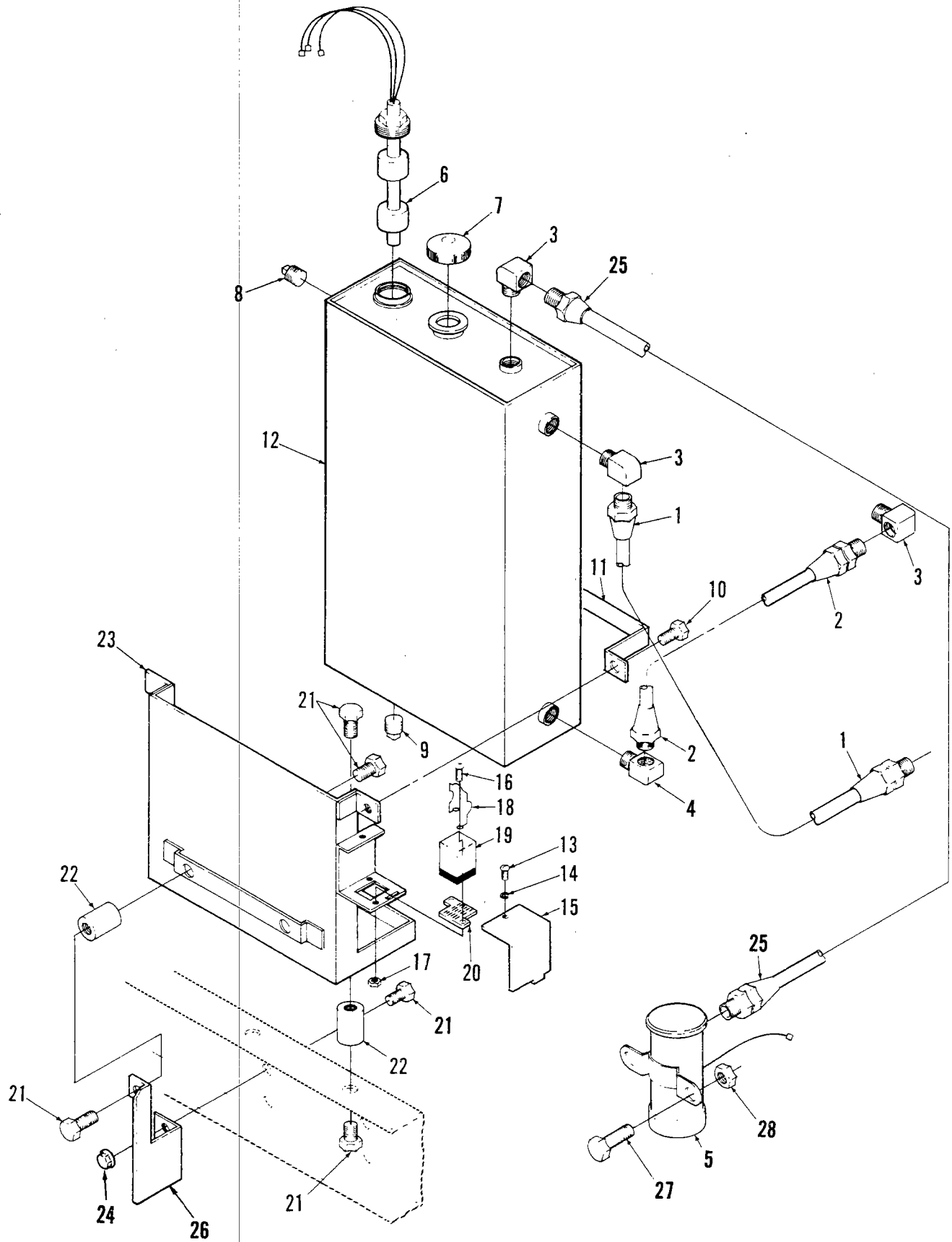
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-2033	20	Screw, Self-locking - Hex Washer Head (M6 x 16 MM)	18	130-2263	1	Shroud, Fan
2	130-2260	1	Guard, Fan - Left Hand	19	130-1818	1	Radiator
3	130-2264	1	Guard, Fan - Right Hand	20	130-2003	1	Cap, Pressure
4	718-1048	4	Screw, Cap - Hex Head (M8 x 80 MM)	21	191-1593	1	Bracket, Support - Belt Guard
5	740-1006	4	Washer, Flat (M8)	22	405-3182	1	Grille
6	130-2305	1	Fan (23-3/4")	23	821-2061	5	Screw, Self-locking - Hex Washer Head (M10 x 25 MM)
7	130-1873	1	Spacer, Fan (53 MM)	24	870-2056	5	Nut, Self-locking - Hex Washer Head (M10)
8	503-0365	4	Clamp, Hose	25	191-1590	1	Bracket, Support - Belt Guard
9	503-1245	1	Hose, Radiator - Upper	26	191-1577	1	Guard, Belt
10	503-1246	1	Hose, Radiator - Lower	27	405-3201	1	Housing - Front
11	508-0248	3	Grommet, Rubber	28	821-0010	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
12	870-2054	6	Nut, Self-locking - Hex Washer Head (M6)	29	402-0546	3	Insert, Isolator
13	130-2282	2	Support, Fan Shroud	30	191-1539	1	Guard, Belt
14	191-1580	1	Bracket, Support - Belt Guard	31	191-1579	1	Guard, Belt
15	718-1032	16	Screw, Cap - Hex Head (M8 x 10 MM)	32	504-0003	1	Cock, Drain (1/4")
16	850-2008	16	Washer, Lock - Spring (M8)				
17	821-2032	12	Screw, Self-locking - Hex Washer Head (M6 x 12 MM)				

## Low Coolant Level Switch



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	193-0322	1	Switch - Coolant Level (S7)
2	338-1691	1	Harness, Wiring (Includes Housing)
3	323-1236	1	Housing, Connector

**Day Tank  
(Underground Fuel Supply Application)**

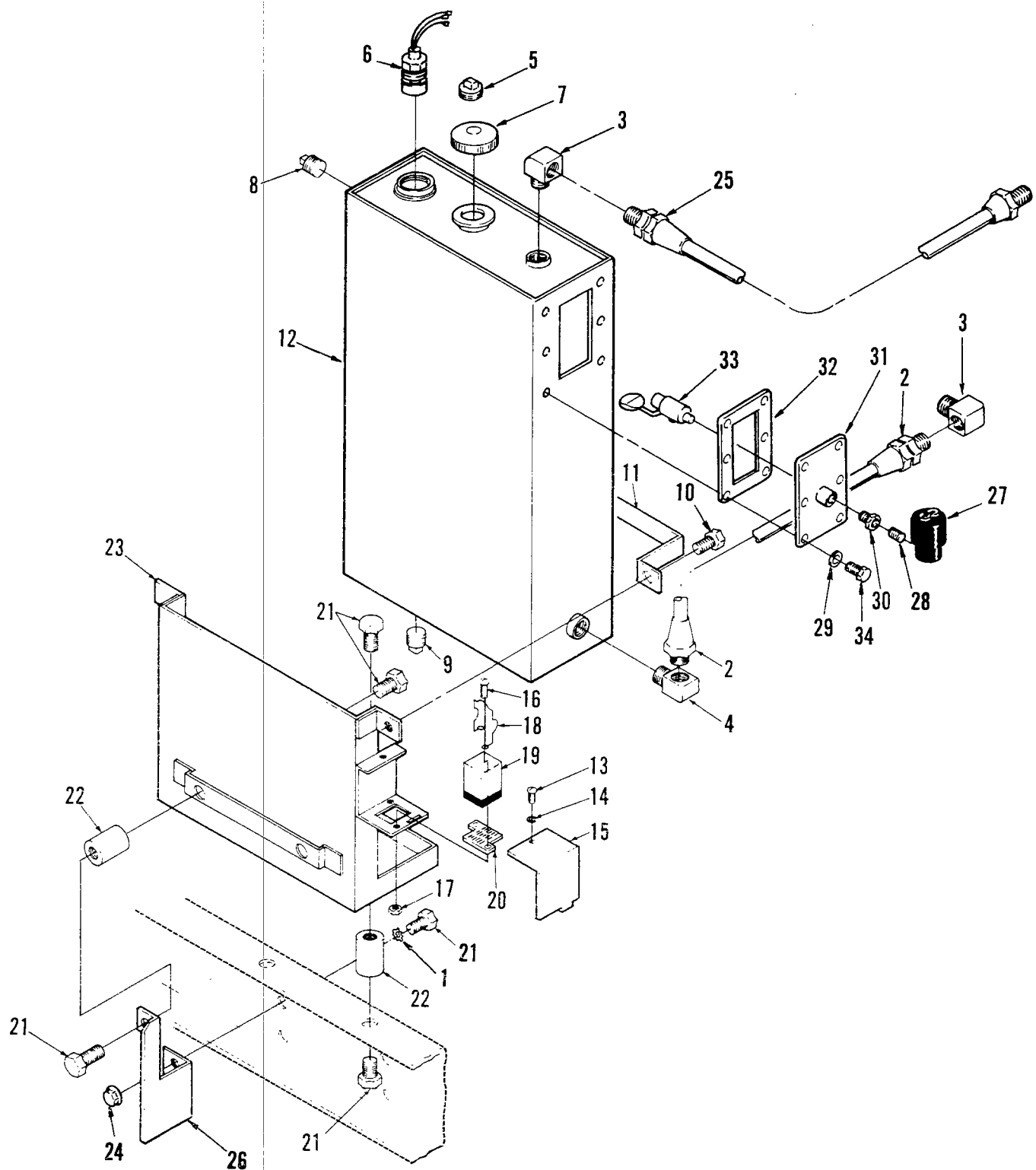




**Day Tank**  
**(Underground Fuel Supply Application)**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0528	1	Line, Fuel - Flexible (45")	15	415-0326	1	Cover, Access - Relay
2	501-0491	1	Line, Fuel - Flexible (32")	16	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
3	502-0916	3	Elbow, Inverted Male - 90°	17	870-1183	2	Nut, Self-locking - Hex Washer Head With ET (#6-32)
4	502-0054	1	Elbow, Street - 90°	18	307-1157	1	Spring, Holddown - Relay
5	149-1828	1	Pump, Fuel (12 Volt DC)	19	307-1058	1	Relay (12 Volt DC)
6	415-0321	1	Switch, Float - Liquid Level (Includes Mounting Plug)	20	323-0765	1	Socket, Relay
7	159-0007	1	Cap, Fuel Tank	21	821-0014	12	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
8	505-0054	1	Plug, Pipe - Square Head (1/4")	22	402-0078	4	Mount, Vibration
9	505-0110	1	Plug, Pipe - Square Head (3/8")	23	415-0544	1	Bracket, Mounting
10	821-0013	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 1")	24	870-0257	4	Nut, Self-locking - Hex Washer Head (5/16-18)
11	415-0451	1	Strap, Retaining - Tank	25	501-0492	1	Line, Fuel - Flexible (20")
12	415-0445	1	Tank, Fuel - Day (Includes Cap) (3-1/2 Gallons)	26	415-0545	2	Bracket, Support - Fuel Tank
13	813-0098	1	Screw, Machine - Round Head (#10-32 x 3/8")	27	821-0018	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 5/8")
14	850-0030	1	Washer, Lock - Spring (#10)	28	870-0212	2	Nut, Self-locking - Hex Washer Head (1/4-20)

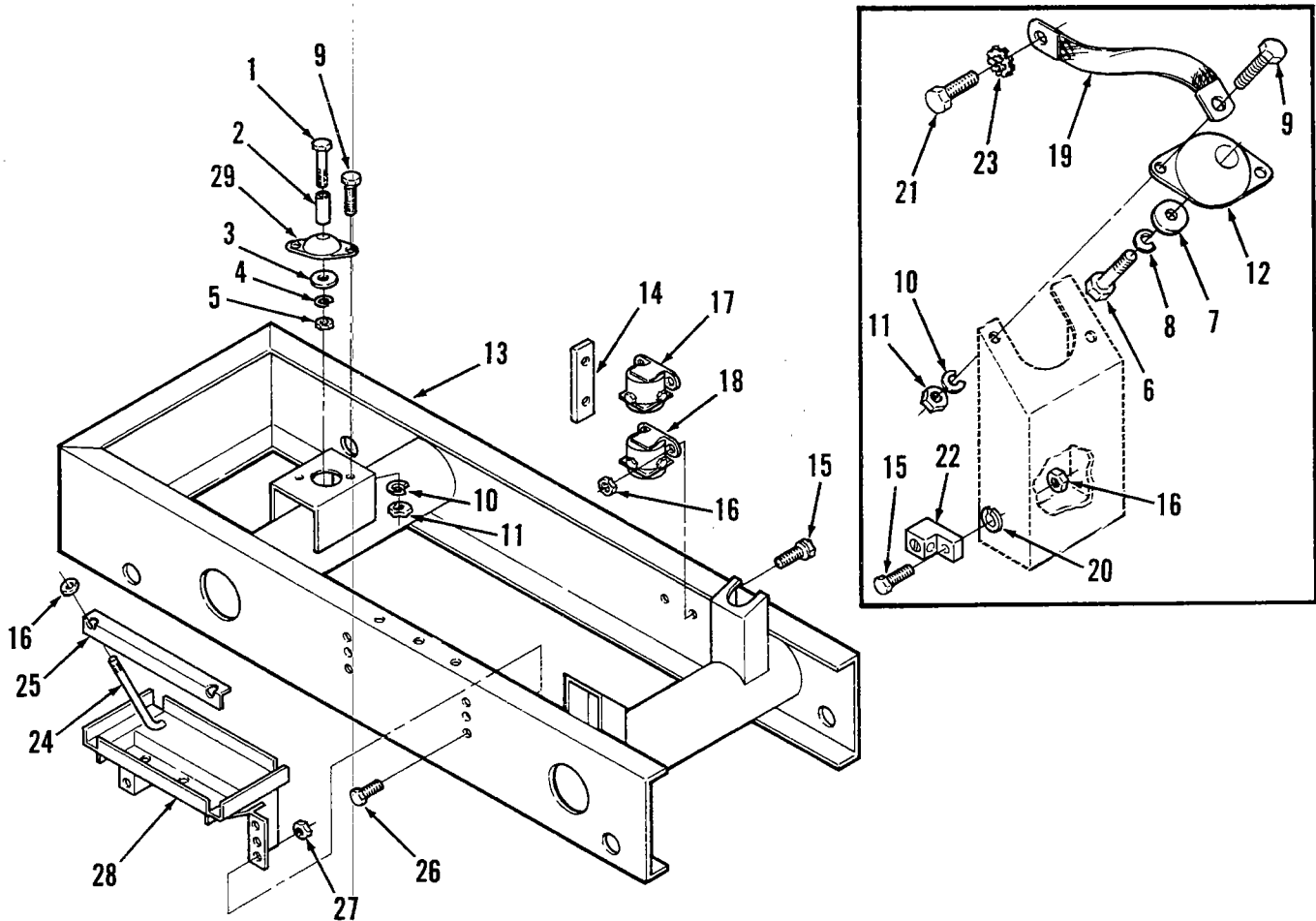
# Day Tank (Overhead Fuel Supply Application)



**Day Tank  
(Overhead Fuel Supply Application)**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	856-0008	1	Washer, Lock - EIT (5/16")	18	307-1157	1	Spring, Holddown - Relay
2	501-0491	1	Line, Fuel - Flexible (32")	19	307-1058	1	Relay (12 Volt DC)
3	502-0041	2	Elbow, Inverted Male - 90°	20	323-0765	1	Socket, Relay
4	502-0054	1	Elbow, Street - 90°	21	821-0014	12	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
5	505-1050	1	Plug, Switch Mounting	22	402-0078	4	Mount, Vibration
6	415-0466	1	Switch, Float - Liquid Level	23	415-0544	1	Bracket, Mounting
7	159-0007	1	Cap, Fuel Tank	24	870-0257	4	Nut, Self-locking - Hex Washer Head (5/16-18)
8	505-0054	1	Plug, Pipe - Square Head (1/4")	25	501-0089	1	Line, Fuel - Flexible (39")
9	505-0110	1	Plug, Pipe - Square Head (3/8")	26	415-0545	2	Bracket, Support - Fuel Tank
10	821-0013	2	Screw, Self-locking - Hex Washer Head (1/4-20 x 1")	27	307-0565	1	Solenoid - 12 Volt DC
11	415-0451	1	Strap, Retaining - Tank	28	505-0098	1	Nipple, Pipe - Close (1/8" x 3/4")
12	415-0543	1	Tank, Fuel - Day (Includes Cap) (3-1/2 Gallons)	29	526-0063	6	Washer, Flat - Copper (17/64" ID x 7/16" OD x 1/32" Thk)
13	813-0098	1	Screw, Machine - Round Head (#10-32 x 3/8")	30	505-0016	1	Bushing, Reducer (3/8" to 1/8")
14	850-0030	1	Washer, Lock - Spring (#10)	31	415-0516	1	Plate, Cover - Access
15	415-0326	1	Cover, Access - Relay	32	415-0467	1	Gasket - Cover Plate
16	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	33	309-0410	1	Valve, Float
17	870-1183	2	Nut, Self-locking - Hex Washer Head With ET (#6-32)	34	800-0002	6	Screw, Cap - Hex Head (1/4-20 x 3/8")

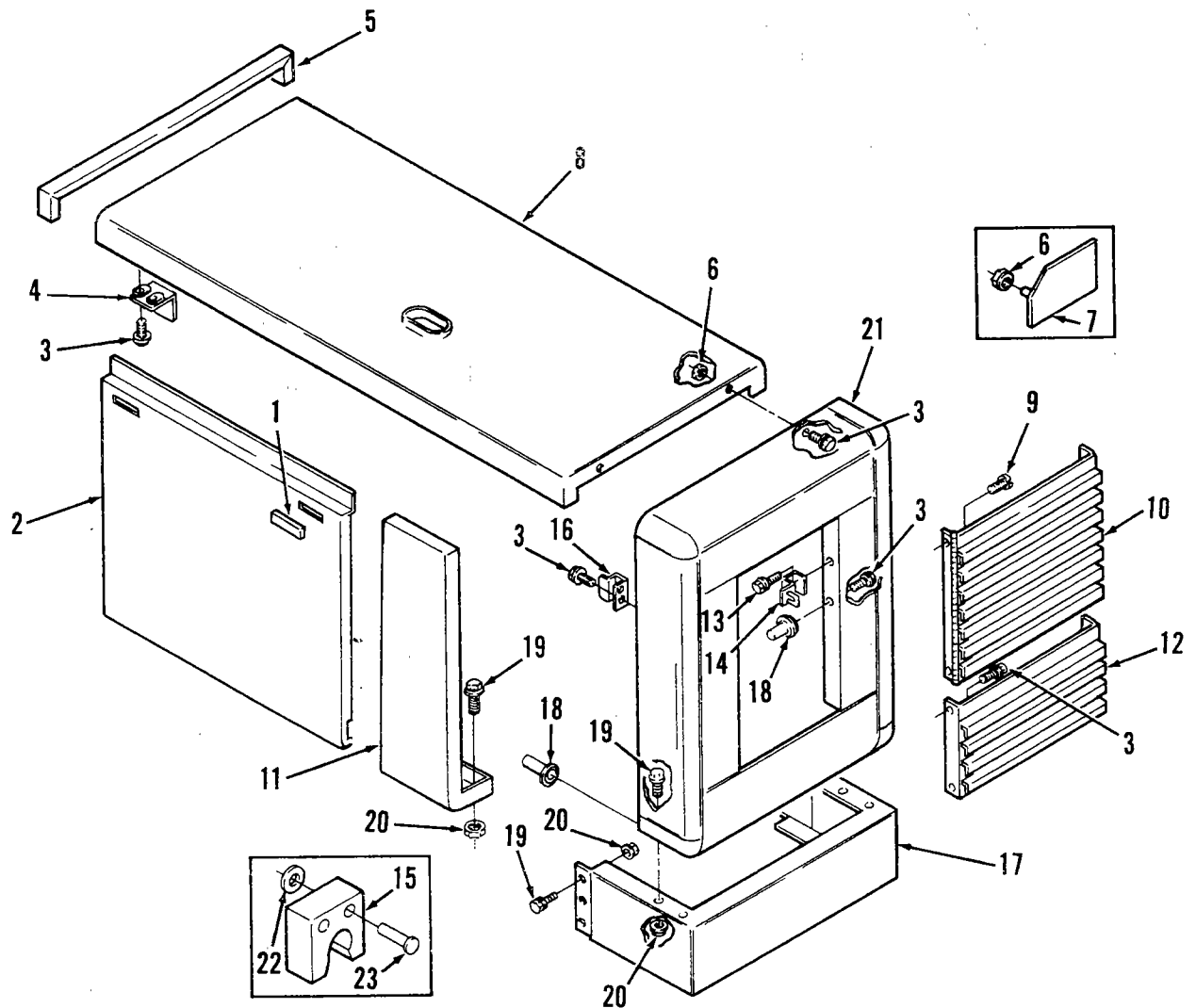
# Chassis



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-2126	1	Screw, Cap - Hex Head (M12 x 110 MM)
2	402-0542	1	Insert, Isolator
3	526-0172	1	Washer, Flat (1/2" ID x 2-1/4" OD x 1/4" Thk)
4	850-2012	1	Washer, Lock - Spring (M12)
5	860-2010	1	Nut, Hex (M12)
6	800-2186	2	Screw, Cap - Hex Head (M16 x 120 MM)
7	526-0242	2	Washer, Flat (11/16" ID x 2-7/8" OD x 1/4" Thk)
8	850-2066	2	Washer, Lock - Spring (M16)
9	800-2111	6	Screw, Cap - Hex Head (M12 x 25 MM)
10	850-2012	6	Washer, Lock - Spring (M12)
11	860-2010	6	Nut, Hex (M12)
12	402-0540	2	Mount, Vibration
13	403-2171	1	Skid
14	332-0602	1	Jumper, Solenoid
15	821-2036	5	Screw, Self-locking - Hex Washer Head (M6 x 30 MM)

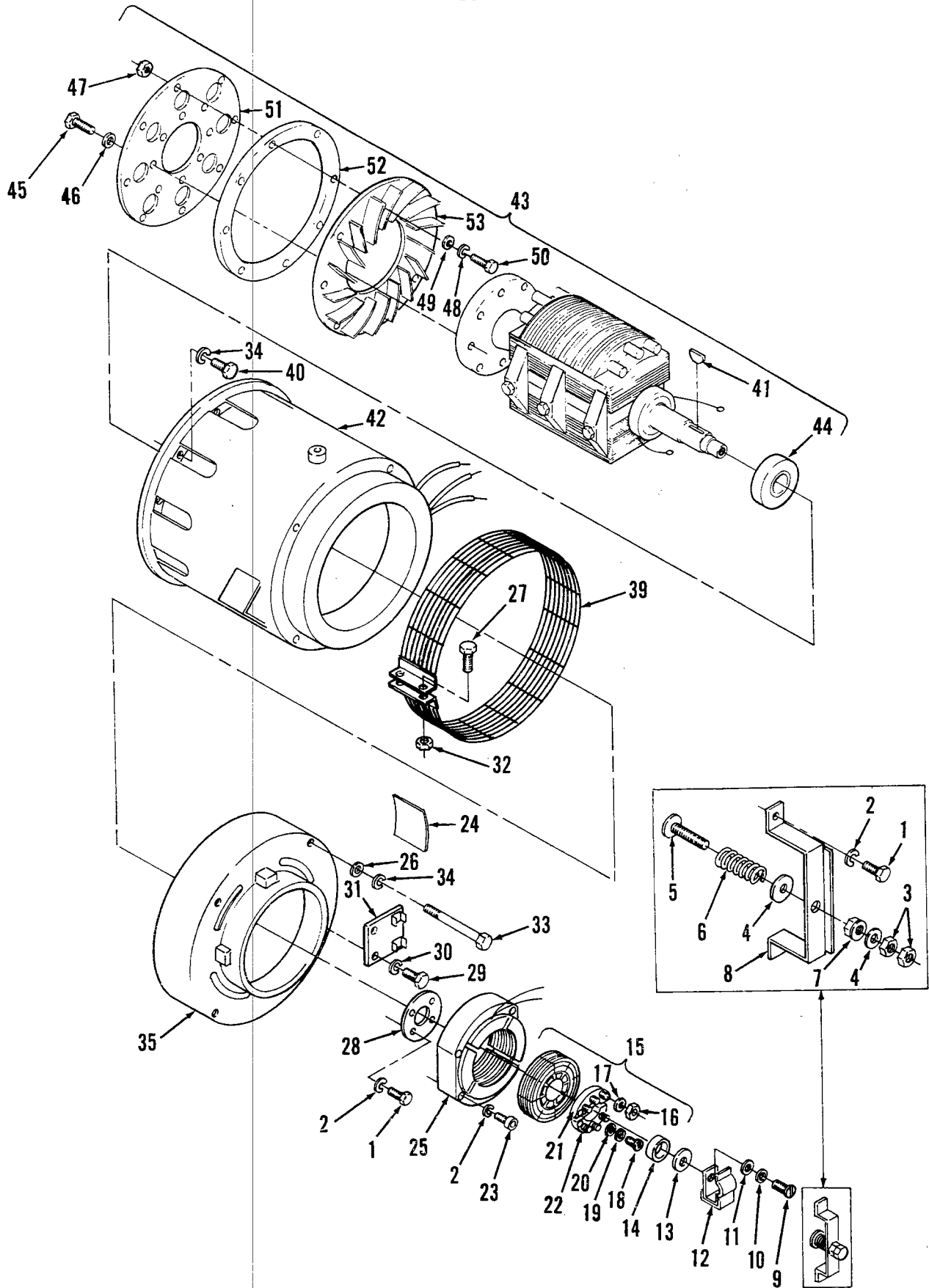
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
16	870-2054	7	Nut, Self-locking - Hex Washer Head (M6)
17	307-1031	1	Relay, Solenoid - Heater (Upper) (K2)
18	307-1166	1	Relay, Solenoid - Start (Lower) (K1)
19	337-0090	1	Strap, Ground - Engine
20	853-2006	1	Washer, Lock - EIT (M6)
21	800-2110	1	Screw, Cap - Hex Head (M12 x 20 MM)
22	332-1473	1	Lug, Solderless
23	856-0013	1	Washer, Lock - EIT (1/2")
24	416-0828	2	Rod, J Hook (M6)
25	416-0830	1	Bracket, Holddown - Battery
26	821-2047	9	Screw, Self-locking - Hex Washer Head (M8 x 25 MM)
27	870-2055	9	Nut, Self-locking - Hex Washer Head (M8)
28	416-0847	1	Tray, Battery
29	402-0541	1	Mount, Vibration

## Housing



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	406-0561	8	Latch, Door	12	405-3082	1	Grille
2	405-3211	4	Door	13	821-2020	2	Screw, Self-locking - Hex Washer Head (M5 x 12 MM)
3	821-2033	50	Screw, Self-locking - Hex Washer Head (M6 x 16 MM)	14	406-0555	1	Latch, Cover
4	406-0552	4	Latch, Door	15	405-1872	8	Clip, Door
5	895-0195	-	Stripping, Weather - Bulk (Order by the foot - 7 foot required)	16	406-0553	8	Catch, Door
6	870-2054	22	Nut, Self-locking - Hex Washer Head (M6)	17	403-2166	1	Skid, Rear
7	405-3240	8	Support, Corner	18	870-2026	10	Nut, Weld (M6)
8	405-3235	1	Panel, Top	19	821-2061	15	Screw, Self-locking - Hex Washer Head (M10 x 25 MM)
9	822-3073	3	Screw, Machine - Pan Head (M4 x 10 MM)	20	870-2056	15	Nut, Self-locking - Hex Washer Head (M10)
10	405-2677	1	Cover, Control	21	405-3242	1	Panel, Rear
11	405-3246	2	Post, Door	22	526-0003	16	Washer, Flat (#8)
				23	818-0150	16	Rivet

# Generator



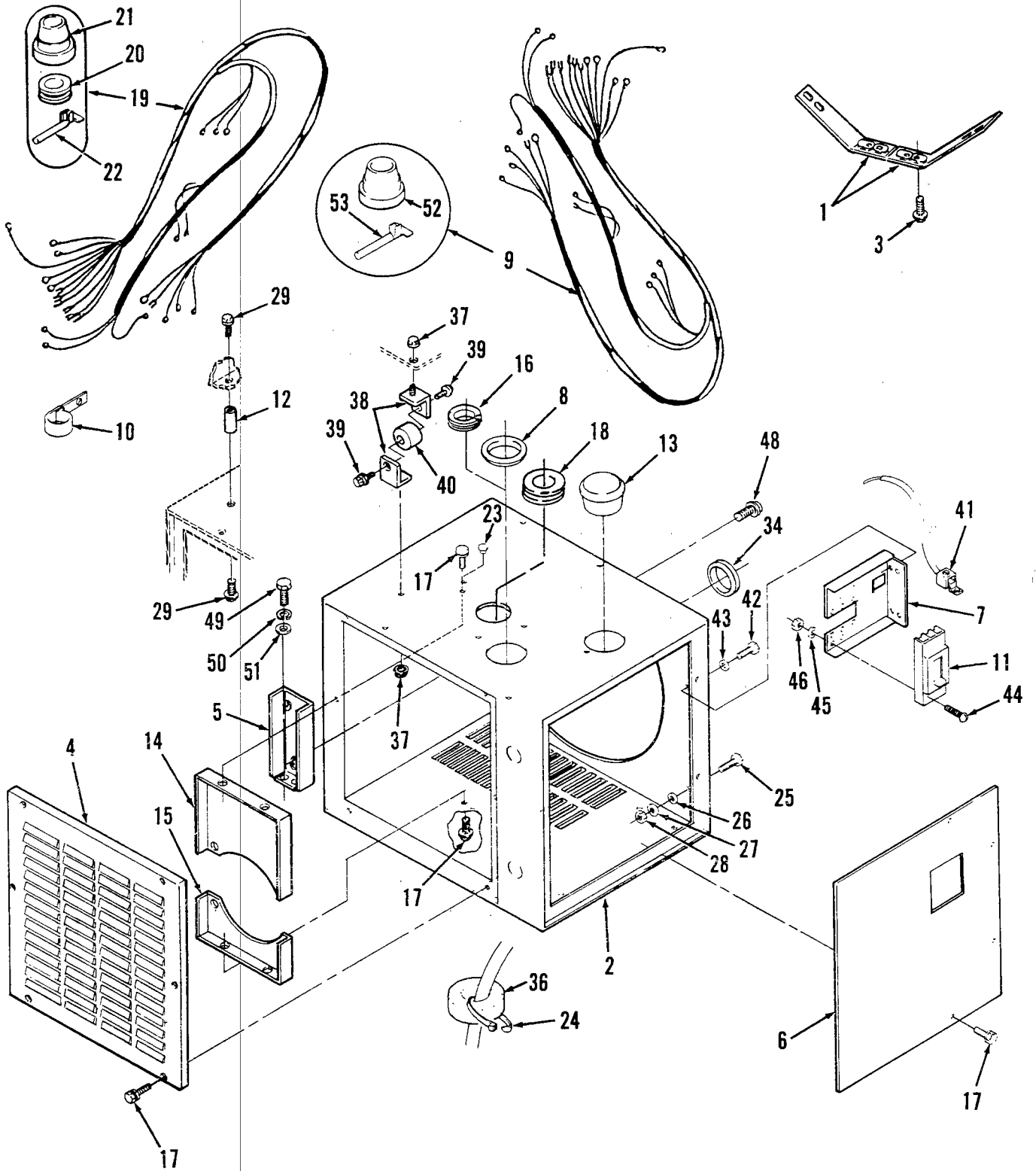
# Generator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-2029	6	Screw, Cap - Hex Head (M6 x 12 MM)	29	800-2004	2	Screw, Cap - Hex Head (M5 x 12 MM)
2	850-2006	10	Washer, Lock - Spring (M6)	30	850-2005	2	Washer, Lock - Spring (M5)
3	860-2006	2	Nut, Hex (M5)	31	232-2418	1	Board, Terminal
4	526-2060	2	Washer, Flat (M5)	32	870-0212	2	Nut, Hex (1/4-20)
5	150-1962	1	Point, Contact	33	800-2100	4	Screw, Cap - Hex Head (M10 x 100 MM)
6	150-1964	1	Spring	34	850-2010	16	Washer, Lock - Spring (M10)
7	870-0171	1	Nut, Insulating	35	211-0367	1	Bell, End
8	150-1963	1	Bracket, Mounting	39	234-0819	1	Screen, Fan
9	720-1057	1	Screw, Cap - Hex Head (M10 x 40 MM)	40	800-2088	12	Screw, Cap - Hex Head (M10 x 35 MM)
10	853-2010	1	Washer, Lock - ET (M10)	41	515-0158	1	Key - Exciter Rotor
11	526-2120	3	Washer, Flat (M10)	42			Stator, Generator
12	150-2038	1	Switch, Overspeed		220-4067	1	Code 9XR
13	526-2129	1	Washer, Flat (11 MM ID x 45 MM OD x 5 MM Thk)		220-3817	1	Code 15R
14	232-2929	1	Spacer, Exciter		220-3963	1	Standard
15	201-2299	1	Rotor Assembly, Exciter (Includes Parts Marked *)			1	Environmentally Protected Code 515R
16	870-0131	6	*Nut, Self-locking - Hex With ET Lockwasher (#10-32)		220-3860	1	Standard
17	526-0008	6	*Washer, Flat (#10)		220-4151-04	1	Environmentally Protected
18	813-0100	4	*Screw, Machine - Round Head (#10-32 x 1/2")	43	201-3101	1	Rotor Assembly, Generator (Includes Parts Marked #)
19	853-0008	4	*Washer, Lock - ET (#10)	44	510-0063	1	#Bearing, Ball
20	526-0008	4	*Washer, Flat (#10)	45	800-2112	8	#Screw, Cap - Hex Head (M12 x 30 MM)
21	358-0069	1	*Rectifier Assembly - Positive	46	526-2148	8	#Washer, Flat (M12)
22	358-0070	1	*Rectifier Assembly - Negative	47	860-2009	8	#Nut, Hex (M10)
23	802-2073	4	Screw, Cap - Socket Head (M6 x 45 MM)	48	850-2010	8	#Washer, Lock - Spring (M10)
24	508-0239	-	Edging - Bulk (Order by the foot - 1 foot required)	49	526-2121	8	#Washer, Flat (M10)
25			Stator, Exciter	50	800-2533	8	#Screw, Cap - Hex Head (M10 x 55 MM)
	220-3968	1	Standard	51	232-3071	1	#Disk, Drive
	220-3969	1	Environmentally Protected	52	232-3082	1	#Spacer
26	526-2121	4	Washer, Flat (#10)	53	205-0161	1	#Fan
27	800-0012	2	Screw, Cap - Hex Head (1/4-20 x 1-3/4")				
28	232-2959	1	Cover, Bearing				

\* - Parts Included in 201-2299 Exciter Rotor Assembly

# - Parts Included in 201-3101 Generator Rotor Assembly

# Output Box

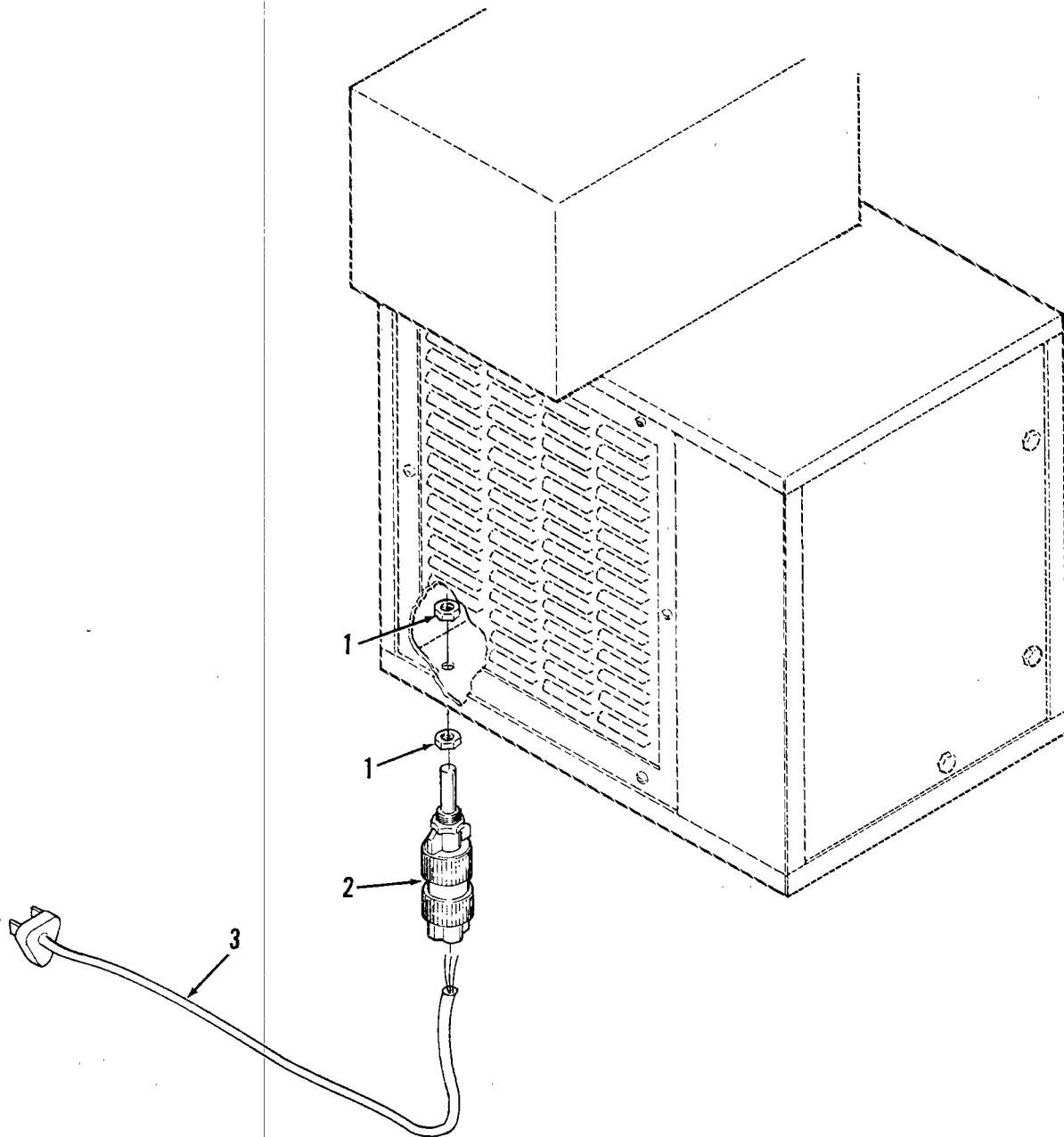




# Output Box

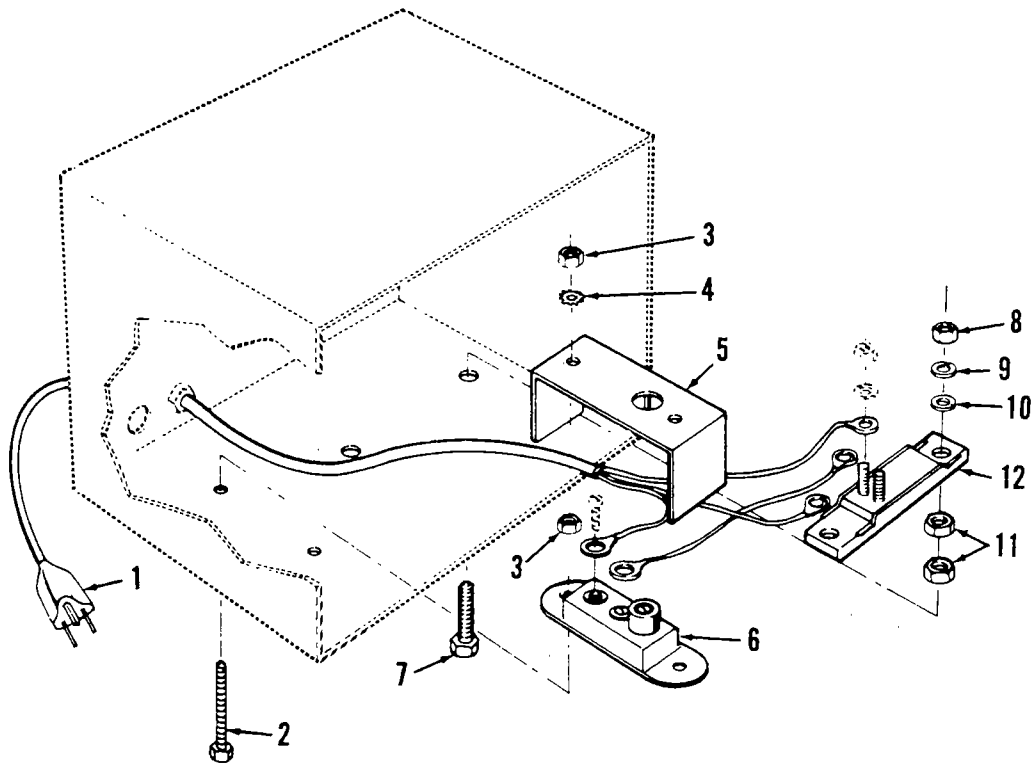
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-9037	2	Bracket, Support - Output Box - Used on some early models	21	323-1134	1	Plug, Circular (16 Pin) (P1)
2			Box, Output	22	323-1192	4	Socket, Female
	301-8113	1	Spec A		323-1195	10	14-12 Gauge Wire
	301-8978	1	Spec B				18-14 Gauge Wire
3	821-2045	4	Screw, Self-locking - Hex Washer Head (M8 x 16 MM)	23	517-0169	4	Plug, Plastic - 3/8" Hole
4	301-8112	1	Grille		517-0169	12	Spec A
5	301-9038	1	Bracket, Output Box	24	332-0941	3	Spec B
6			Cover	25	800-2035	1	Tie, Cable
	301-8114	1	Without Circuit Breaker Opening	26	856-0006	1	Screw, Cap - Hex Head (M6 x 25 MM)
	301-8896	1	With Circuit Breaker Opening	27	850-2006	2	Grounding Stud
7	301-7572	1	Bracket, Mounting - Circuit Breaker	28	860-2007	2	Washer, Lock - EIT (1/4")
8	508-0257	1	Grommet, Plastic - 3-1/2" Hole	29	821-0014	8	Washer, Flat (M6)
9	338-1647	1	Harness, Wiring - Generator to Control (Includes Plug and Pins)				Nut, Hex (M6)
10	332-1356	3	Clamp, Insulated - DC Wiring Harness	34	508-0055	1	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
11			Breaker, Circuit (CB4 or CB5)				Spec A
	320-1312	1	Voltage Code 9XR 90 Amp, 480 Volt	36			Grommet, Rubber - 1-3/4" Hole
	320-1466-27	1	90 Amp, 480 Volt (With Shunt Trip)		302-0076	3	Transformer, Current (CT21, 22, 23)
	320-0347	1	175 Amp, 240 Volt				Voltage Code 9XR (Ratio 75/5, 1 VA)
	320-0348	1	200 Amp, 240 Volt		302-0106	3	Voltage Code 15R, 515R
	320-0359	1	225 Amp, 240 Volt				45.0 DL6B (Ratio 200/5, 1 VA)
	320-1312	1	Voltage Code 515R - 90 Amp, 480 Volt		302-0107	3	50.0 DL6B (Ratio 300/5, 1 VA)
12	402-0070	4	Dampener, Vibration - Spec A	37	870-0257	8	Nut, Self-locking - Hex Washer Head (5/16-18)
13	517-0190	1	Plug, Plastic - 3-1/2" Hole				Spec B
14			Bracket - Upper	38	301-8955	8	Bracket - Spec B
	301-8110	1	Spec A	39	821-0014	8	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
	301-8951	1	Spec B				Spec B
15			Bracket - Lower	40	402-0527	4	Isolator, Vibration - Spec B
	301-8109	1	Spec A	41	226-3423	3	Lead, Generator Output Extension (Quantity may vary)
	301-8952	1	Spec B	42	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
16	508-1010	1	Channel, Rubber - Used on some early models	43	850-0040	2	Washer, Lock - Spring (1/4")
17	821-2032	14	Screw, Self-locking - Hex Washer Head (M6 x 12 MM)	44	812-0094	4	Screw, Machine - Round Head (#8-32 x 3-5/8")
18	508-0051	1	Grommet, Rubber - 2" Hole (Spec B)	45	850-0025	4	Washer, Lock - Spring (#8)
19	338-1710	1	Harness, Wiring - Engine to Control (Includes Grommet, Plug and Sockets)	46	860-0008	4	Nut, Hex (#8-32)
20	508-0258	1	Grommet, Rubber - 1-1/2" Hole	48	821-2045	3	Screw, Self-locking - Hex Washer Head (M8 x 16 MM)
				49	800-2054	2	Screw, Cap - Hex Head (M8 x 14 MM)
				50	850-2008	2	Washer, Lock - Spring (M8)
				51	526-2101	2	Washer, Flat (M8)
				52	323-1136	1	Plug, Circular (14 Pin) (P2)
				53	323-1228	11	Pin, Male

# Generator Heater

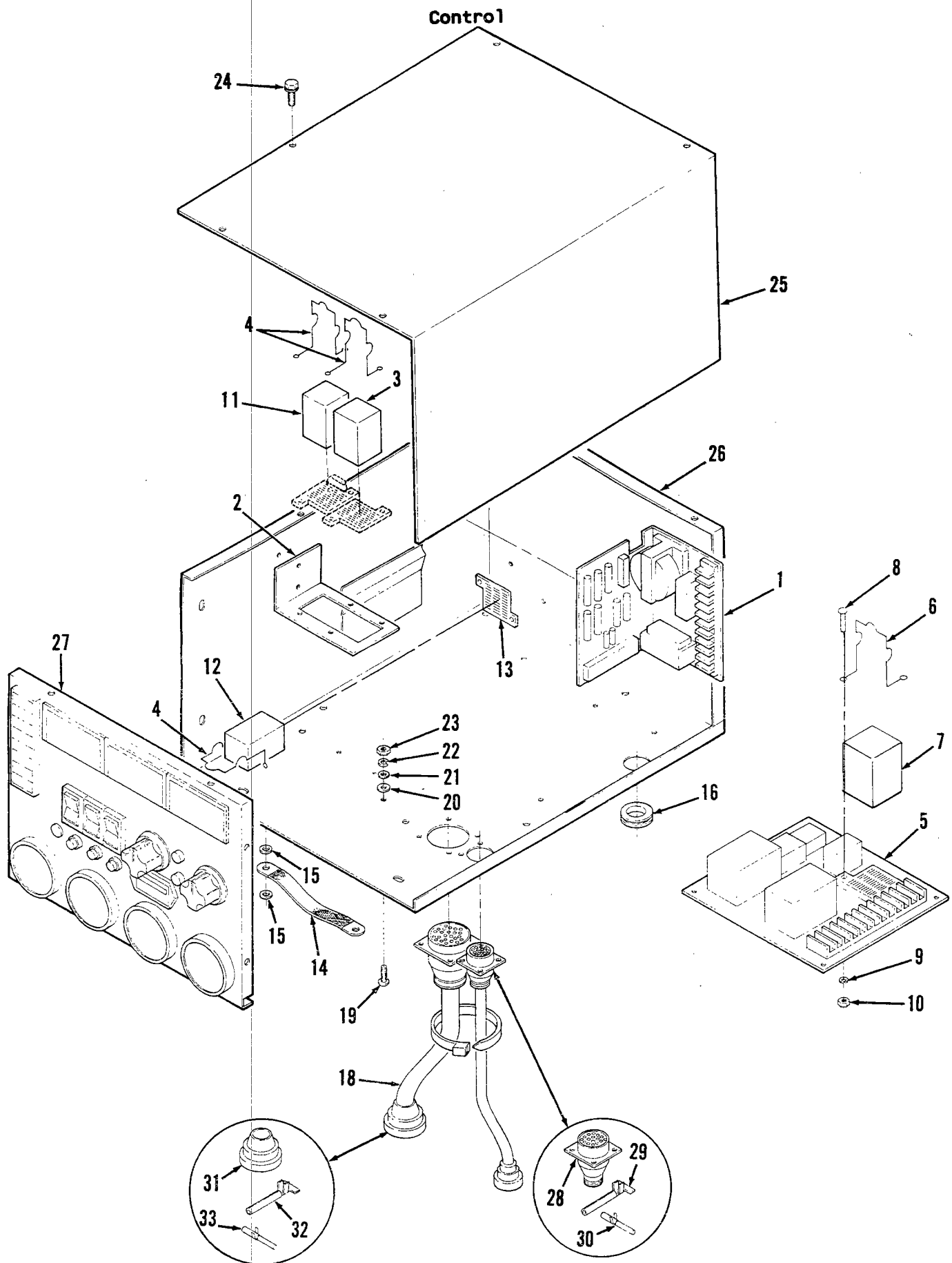


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	331-0041	2	Nut, Hex - Special
2	333-0157	1	Heater, Electrical
3	333-0228	1	Cord, Heater (6')

# Control Heater



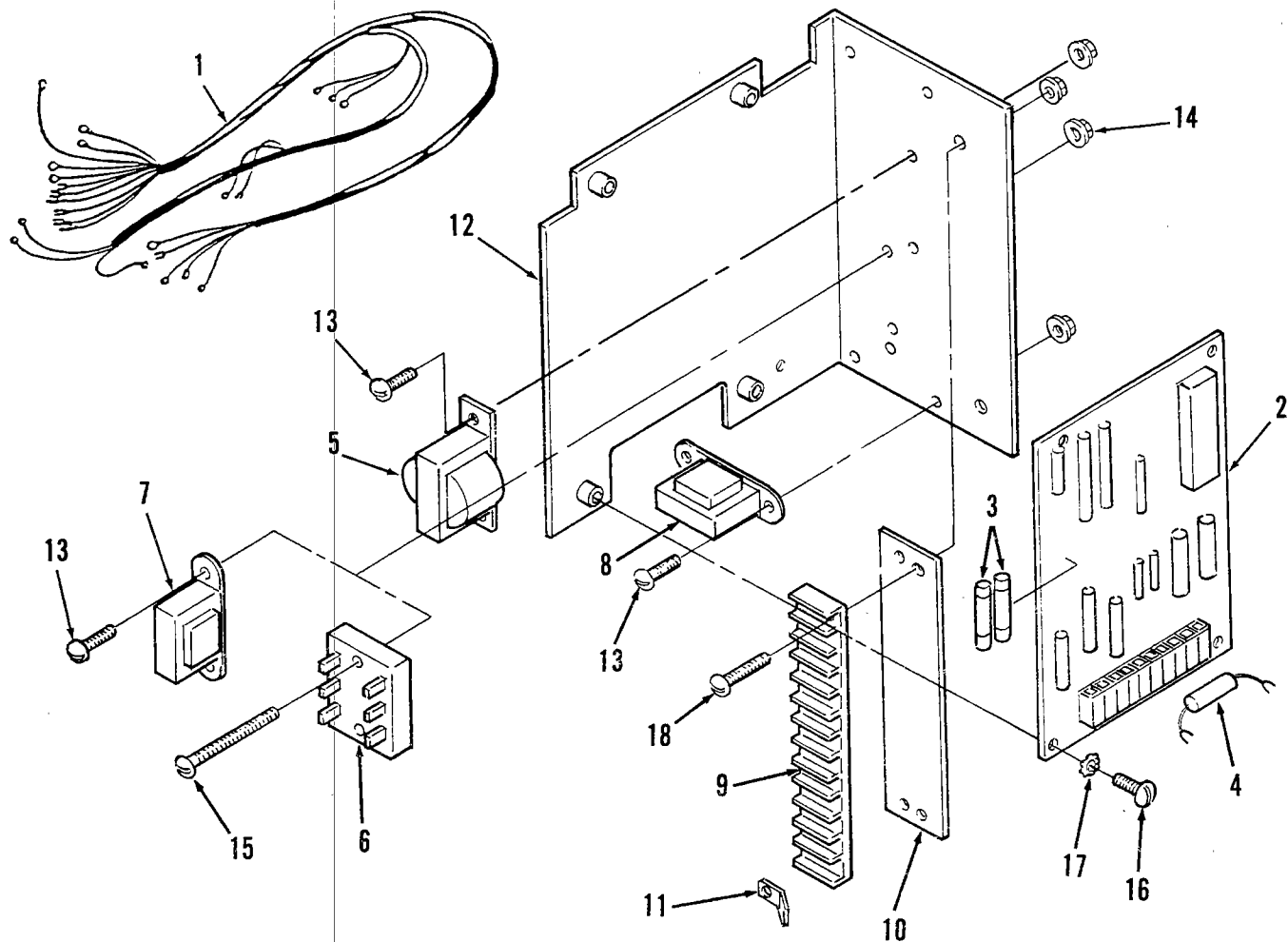
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	335-0110	1	Cable, Electrical (3 Wire)	8	862-0001	2	Nut, Hex (1/4-20)
2	812-0090	2	Screw, Machine - Round Head (#6-32 x 2-1/4")	9	850-0040	2	Washer, Lock - Spring (1/4)
3	860-0006	4	Nut, Hex (#6-32)	10	526-0052	2	Washer, Flat (17/64" ID x 9/16" OD x 1/16" Thk)
4	856-0001	2	Washer, Lock - EIT (#6)	11	862-0015	4	Nut, Hex (5/16-18) - Used As Spacers
5	301-1886	1	Cover, Thermostat	12	333-0151	1	Heater - 75 Watt, 120 VAC; 300 Watt, 240 VAC
6	309-0128	1	Thermostat - Adjustable				
7	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")				



# Control

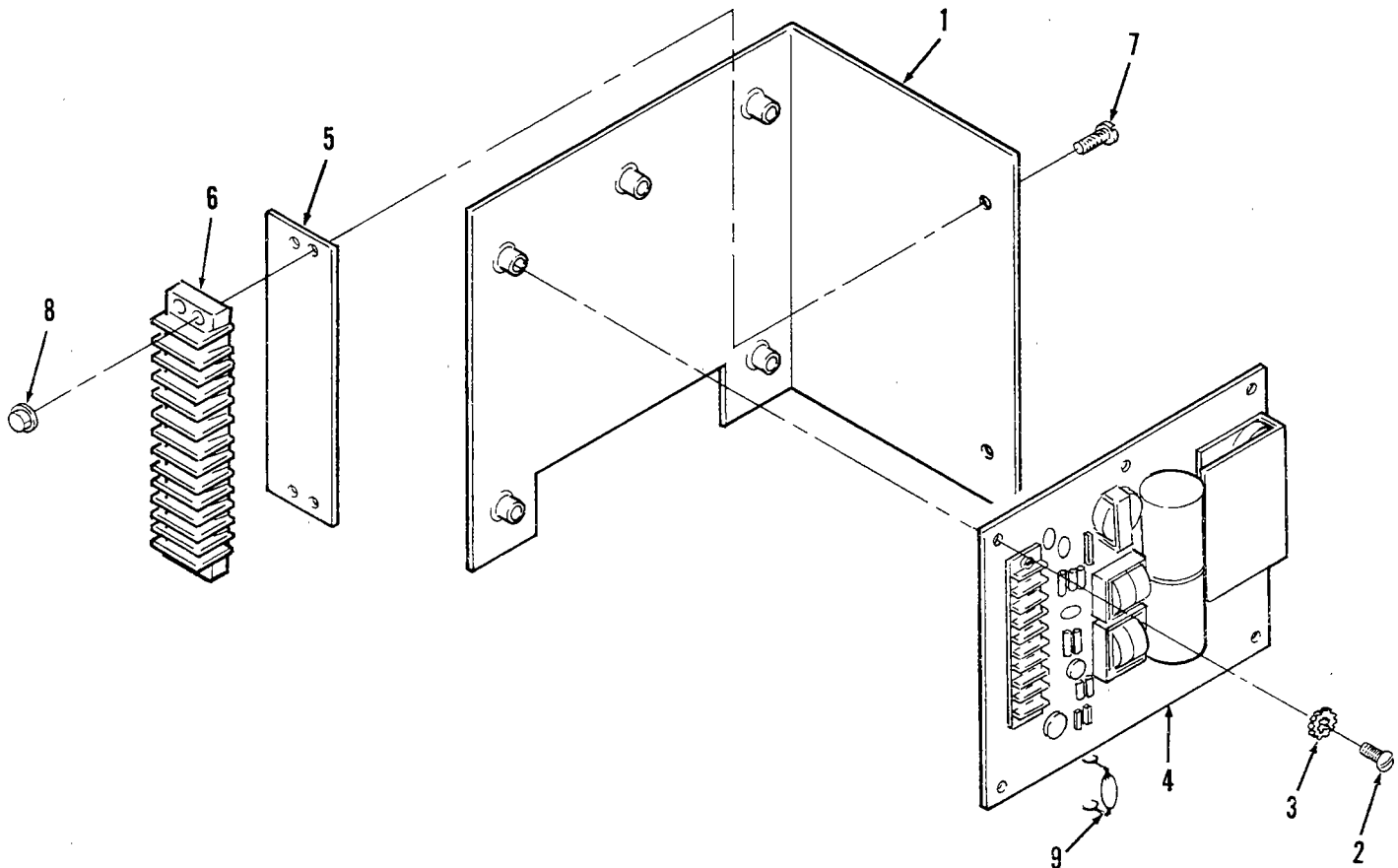
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Regulator Assembly, Voltage (See Separate Page for Components)	18	338-1427	1	Harness, Wiring - Remote Control (30')
	305-0693-01	1	Standard (VRA21)	19	815-0105	1	Screw, Machine - Round Head (Brass) (#10-32 x 1")
	305-0693-02	1	Fixed Resistor				Grounding Stud
			External Adjust	20	526-0063	2	Washer, Flat - Brass (#10)
	305-0695-01	1	Switching Regulator (VRA21)	21	856-0003	2	Washer, Lock - EIT (#10)
	305-0695-02	1	Fixed Resistor	22	851-0001	1	Washer, Lock - Spring (Brass) (#10)
	305-0737	1	External Adjust	23	871-0010	2	Nut, Hex - Brass (#10-32)
2			Standard (VRAS-2)	24	821-0005	5	Screw, Self-Locking - Hex Washer Head (#10-32 x 1/2")
	301-3244	1	Bracket, Mounting - Relay				Cover, Control
	301-7334	1	One Socket Hole	25	301-5150	1	Box, Control
3	307-1061	1	Two Socket Holes	26	301-5230	1	Panel, Control (See Separate Page for Components)
4	307-1157	3	Relay - Start (K11)	27	-	1	Receptacle - Square Flange
5			Spring, Holddown - Relay				14 Pin (J2)
			Monitor Assembly, Engine (Includes Replaceable Relay and Spring) (A11)	28	323-1137	1	16 Pin (J1)
	300-2510	1	Two Light Monitoring System (Standard)	29	323-1229	11	Socket, Female - Used With 14 Pin Receptacle
	300-2453-04	1	Nine Light Monitoring System	30			Pin, Male - Used With 16 Pin Receptacle
6	307-1157	1	Spring, Holddown - Relay		323-1193	4	16-12 Gauge Wire
7	307-1687	1	Relay (A11K1)		323-1194	12	18-14 Gauge Wire
8	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	31	323-1136	1	Plug - Circular
9	854-0006	2	Washer, Lock - IT (#6)		323-1134	1	14 Pin (P2)
10	860-0006	2	Nut, Hex (#6-32)				16 Pin (P1)
11	307-1061	1	Relay - Voltage Selector (K21)	32			Socket, Female - Used With 16 Pin Plug
12	307-1058	1	Relay - Run (K12)		323-1192	4	14-12 Gauge Wire
13	323-0804	1	Socket, Relay (K12)		323-1195	12	18-14 Gauge Wire
14	337-0049	1	Strap, Ground	33	323-1194	11	Pin, Male - Used With 14 Pin Plug
15	856-0008	2	Washer, Lock - EIT (5/16")				
16	508-0144	1	Grommet, Rubber (1" Hole)				

# **Voltage Regulator Assembly (VRA21)**



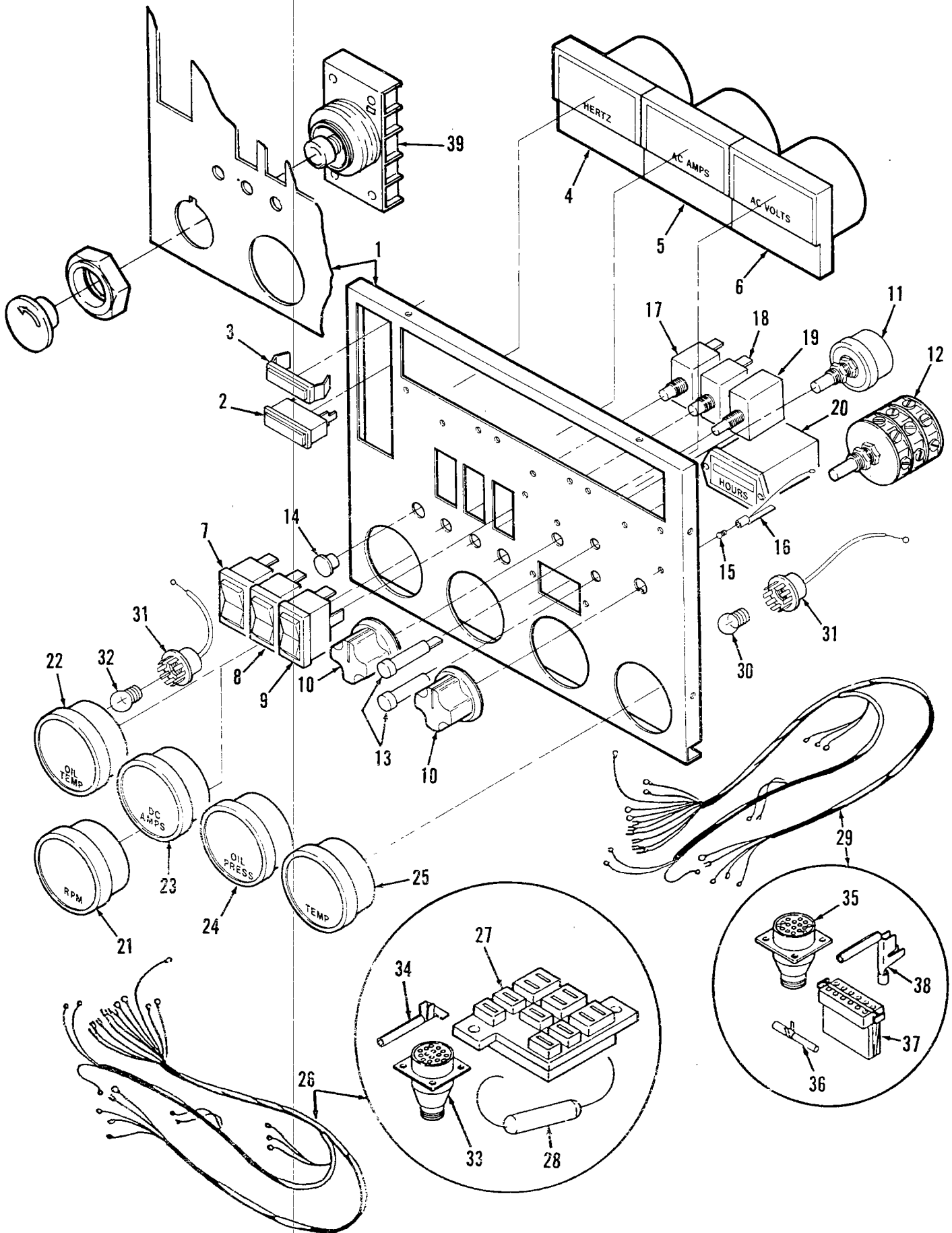
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Regulator Assembly, Voltage - Complete Standard	7	315-0343	1	Reactor - Used on Switching Voltage Regulator Assemblies (VRA21L22)
	305-0693-01	1	Fixed Resistor	8	315-0343	1	Reactor (VRA21L21)
	305-0693-02	1	External Adjust	9	332-0607	1	Block, Terminal (VRA21TB2)
			Switching Regulator	10	332-2373	1	Strip, Marker
	305-0695-01	1	Fixed Resistor	11	332-2387	4	Terminal, Tab - Used on Standard Voltage Regulator Assemblies
	305-0695-02	1	External Adjust				
1			Harness, Wiring	12	301-5736	1	Panel, Mounting
	338-1443	1	Standard Regulator	13			Screw, Machine - Round Head (#6-32 x 3/8")
	338-1670	1	Switching Regulator		812-0061	4	Standard Voltage Regulator Assemblies
2			Board, Voltage Regulator (VR21)		812-0061	6	Switching Voltage Regulator Assemblies
	332-2045	1	Standard Regulator (Includes Fuses)				
	300-2409	1	Switching Regulator	14	870-0183	8	Nut, Self-Locking - Hex Head With ET Lockwasher (#6-32)
3	321-0204	2	Fuse (1/4 Amp) Used With Standard Voltage Regulator Board (VR21F2,F3)	15	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4") Used on Standard Voltage Regulator Assemblies
4	350-1190	1	Resistor - Fixed (1740 Ohms, 1/2 Watt) Used on Voltage Regulator Assemblies Without External Adjust (VRA21R21)	16	812-0059	4	Screw, Machine - Round Head (#6-32 x 1/4")
5	315-0431	1	Transformer (VRA21T21)	17	853-0003	4	Washer, Lock - ET (#6)
6	305-0524	1	Bridge, Rectifier - Used on Standard Voltage Regulator Assemblies (VRA21CR21)	18	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")

# **Voltage Regulator Assembly (VRAS-2)**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	305-0737	1	Regulator Assembly, Voltage - Complete	6	332-0607	1	Block, Terminal (VRAS-2TB2)
1	301-9334	1	Panel, Mounting	7	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")
2	812-0059	5	Screw, Machine - Round Head (#6-32 x 1/4")	8	870-0183	2	Nut, Self-Locking - Hex Head With ET Lockwasher (#6-32)
3	853-0003	5	Washer, Lock - ET (#6)	9	350-0394	1	Resistor - Fixed (2000 Ohms, 1/2 Watt) Used on Voltage Regulator Assemblies Without External Adjust (VRAS-2R21)
4	300-2880	1	Board, Voltage Regulator (VR21)				
5	332-2373	1	Strip, Marker				

# Control Panel

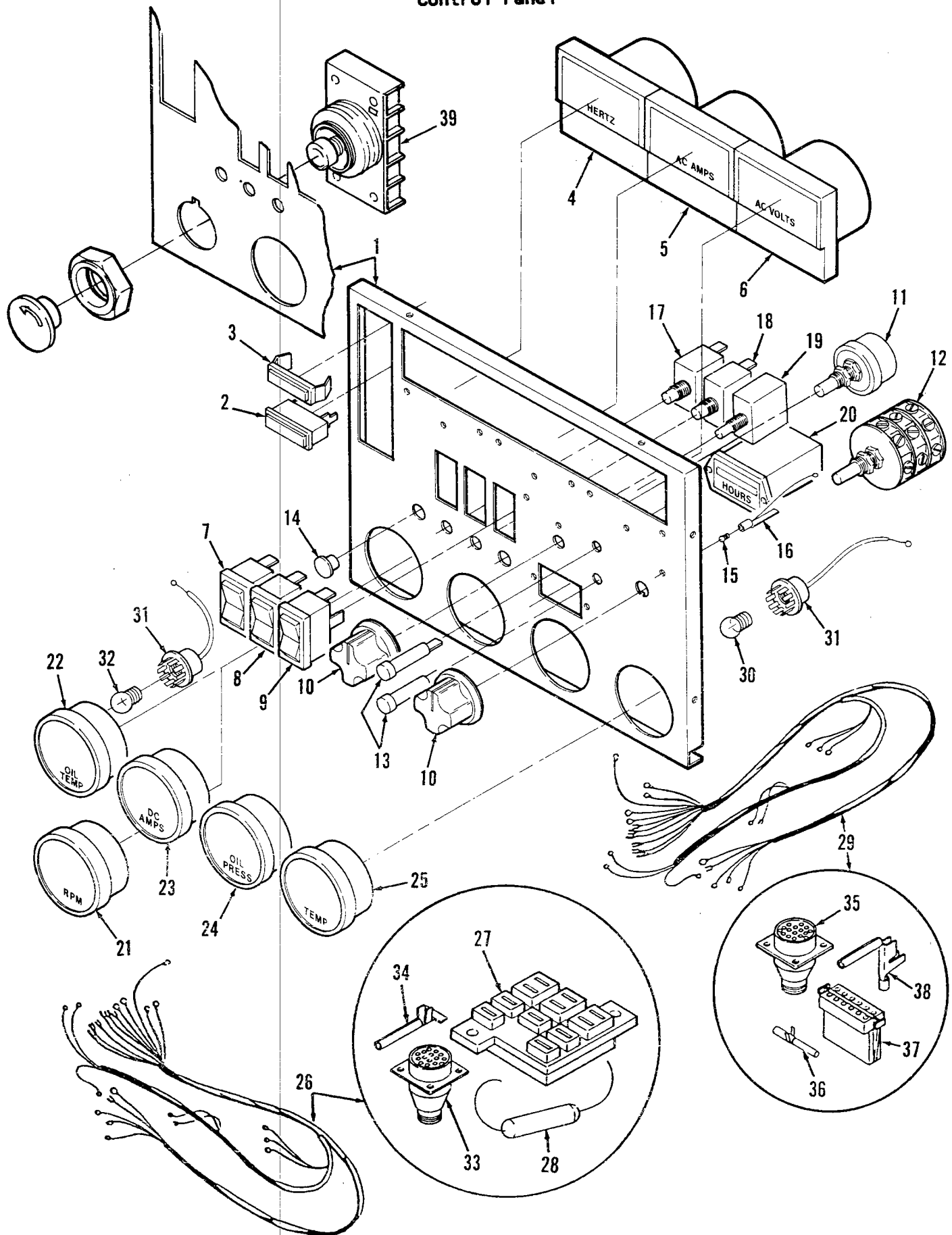




# Control Panel

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Panel, Control	5			Ammeter - AC (M23)
	301-7348-01	1	Panels Without AC Meters		302-1678	1	Voltage Code 9XR
			Panels With Three Round Gauge Holes		302-1683	1	Voltage Code 15R, 515R
	301-7348-02	1	Panels With Four Round Gauge Holes		302-1684	1	45.0 DL6B
			Panels With AC Meters	6			50.0 DL6B
			Panels With Three Round Gauge Holes		302-1148	1	Voltmeter - AC (M22)
	301-7349-01	1	Without Emergency Stop Switch		302-1300	1	All Except Voltage Code 9XR
	301-9498	1	With Emergency Stop Switch	7			Voltage Code 9XR
	301-7349-02	1	Panels With Four Round Gauge Holes		308-0531	1	Switch, Push (Remote, Stop, Start) (S10)
2			Light, Indicator (14VDC)				Controls With Two Light Monitoring System
			Controls With Two Light Monitoring System		308-0620	1	Controls With Nine Light Monitoring System
	322-0238	1	RUN - Green (DS1)		308-0624	1	Standard
	322-0128	1	FAULT - Red (DS2)	8	308-0533	1	Pennsylvania State Approved
			Controls With Nine Light Monitoring System	9	308-0532	1	Switch, Push - Pre Heat (S11)
	322-0238	1	RUN - Green (DS1)	10	303-0032	2	Switch, Push - Lamp Test (S12)
	322-0110	1	LO ENG TEMP - Red (DS2)	11			Knob
	322-0109	1	HI ENG TEMP - Red (DS3)		303-0170	1	Potentiometer - 25 Watt (R23)
	322-0108	1	LO OIL PRES - Red (DS4)				Used With VRA21 Voltage Regulator Assembly With External Adjust
	322-0111	1	OVERSPEED - Red (DS5)		303-0261	1	Used With VRAS-2 Voltage Regulator Assembly With External Adjust
	322-0107	1	OVER CRANK - Red (DS6)				Switch, Rotary -
	322-0240	1	PRE HI ENG TEMP - Amber (DS7)	12	308-0284	1	Voltmeter/Ammeter (S21)
	322-0241	1	PRE LO OIL PRESS - Amber (DS8)	13	322-0211	2	Light, Pilot (DS21,DS22)
	322-0283	1	SWITCH OFF - Red (DS9)	14	517-0132	1	Plug, Hole
3	322-0141	7	Lens, Indicator Light (No Legend or Lamp) Controls With Two Light Monitoring System	15	322-0203	2	Lamp (DS14,DS15)
4			Meter, Frequency - AC (M21)	16	322-0213	2	Lampholder
	302-1273	1	50 Hertz	17	320-1110	1	Breaker, Circuit - Remote - 7 Amp (CB1)
	302-1153	1	60 Hertz	18	320-1110	1	Breaker, Circuit - Control - 7 Amp (CB2)

# Control Panel



# Control Panel

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
19			Breaker, Circuit - Field Used With VRA21 Voltage Regulator Assembly	30	322-0308	3	Lamp, Pilot (DS10,DS11,DS12)
	320-1138	1	3 Amp (Dual - CB3,CB4)	31	322-0210	4	Socket, Lamp
	320-0530	1	5 Amp (CB3)	32	322-0004	1	Lamp, Pilot (DS13)
	320-1121	1	Used With VRAS-2 Voltage Regulator Assembly - 3 Amp (CB3)	33	323-1137	1	Receptacle - Square Flange (14 Pin) (P2)
20	302-0885	1	Meter, Time Totalizing (M4)	34			Socket, Female
21	302-1715	1	Tachometer (Includes Socket and Lamp (M5))		323-1229	11	Used With 338-1642-01 Wiring Harness
22	193-0330	1	Gauge, Oil Temperature (M5)		323-1229	5	Used With 338-1642-03 Wiring Harness
23	302-1402	1	Ammeter - DC (M1)		323-1229	10	Used With 338-1642-04 Wiring Harness
24	193-0352	1	Gauge, Oil Pressure (M2)	35	323-1135	1	Receptacle - Square Flange (16 Pin) (P1) Used With 338-1643-01 Wiring Harness
25	193-0351	1	Gauge, Water Temperature (M3)				Pin, Male - Used With 323-1137 Receptacle
26			Harness, Wiring - AC (Includes Socket for K11 Start Relay, Receptacle and Sockets)	36			16-12 Gauge Wire
	338-1642-03	1	Controls Without AC Meters Controls With AC Meters		323-1193	3	18-14 Gauge Wire
	338-1642-01	1	All Except Voltage Code 9XR (Also Includes Resistor and Socket for K21 Voltage Selector Relay)	37	323-0984	3	Plug, Connector (12 Pin) (J1, J2, J3) Used With 338-1643-01, 338-1644 and 338-1645 Wiring Harnesses
	338-1642-04	1	Voltage Code 9XR	38			Socket, Male (Side Feed)
27	323-0765	2	Socket, Relay (For K11,K21 Relays)		323-0488	8	Used With 338-1643-01 Wiring Harness
28	350-0556	1	Resistor, Fixed - 47K Ohm, 1/2 Watt (K21R22)		323-0488	12	Used With 338-1644 Wiring Harness
29			Harness, Wiring - DC (Includes Receptacle, Pins, Plug and Sockets, where required.)		323-0488	10	Used with 338-1645 Wiring Harness
	338-1643-01	1	Meters	39	308-0813-01	1	Switch, Push - Emergency Stop (S13) Includes Knob and Mounting Hardware
	338-1644	1	Switches				
	338-1646	1	Indicator Lights				
	338-1645	1	Controls With Two Light Monitoring System				
			Controls With Nine Light Monitoring System				

## Paint and Thread Sealant

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	525-0305	-	Paint, Green - Enamel (13 oz. Pressurized Spray Can)
	518-0452	-	Sealant, Thread (50 cc Bottle)